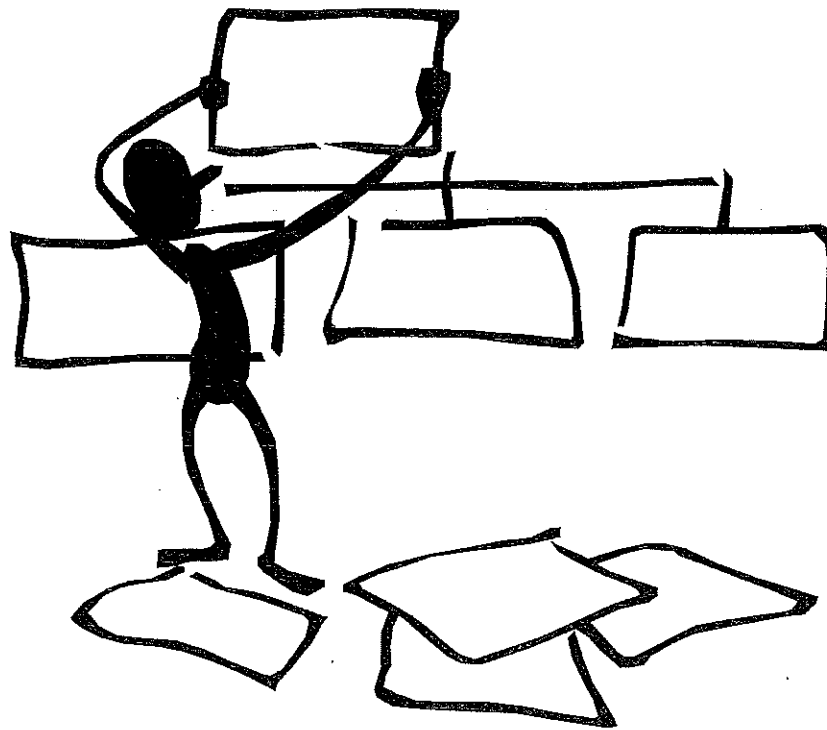


# Understanding by Design 2.0

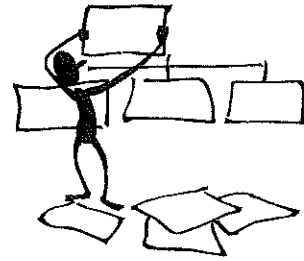
## Upgrades & Refinements



*presented by*

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# The Understanding by Design Template 2.0



## Frequently Asked Questions

### *1. Why did you change the UbD Template?*

Just as computer software programs are regularly updated to incorporate new ideas and adjustments based on user feedback, the new Template reflects the most current thinking on UbD, based on our own observations and the constant feedback we get from users throughout the world. In particular, we have seen the need to highlight transfer goals and the coding of Stages 2 and 3 because too often well intentioned designers were not focusing on long-term transfer in their units, and the unit assessments often did not closely align with the stated goals of Stage 1.

### *2. Do you have to follow the UbD Template order (top to bottom) when you design?*

No. Backward design does not demand a rigid sequence. The process of thinking through a design is inherently non-linear, with various entry points, leading eventually to a logically-organized product. Regardless of approach, designers should routinely check the emerging design against the UbD Design Standards to ensure that the process yields a desired high-quality unit design.

### *3. Should you use the 3-stage UbD Template for planning lessons as well as units?*

We do not recommend isolated lesson planning separate from unit planning. We have chosen the unit as a focus for design because the key elements of UbD – understandings, essential questions, and transfer performances – are too complex and multi-faceted to be satisfactorily addressed within a single lesson. For instance, essential questions should be revisited over time, not answered by the end of a single class period.

Nonetheless, the larger unit goals provide the context in which individual lessons are planned. Teachers often report that careful attention to Stages 1 and 2 sharpens their lesson planning, resulting in more purposeful teaching and improved learning.

Wiggins, G. and McTighe, J. (2011) *The Understanding by Design Guide to Creating High Quality Units*. Association for Supervision and Curriculum Development (ASCD).

<http://www.ascd.org/publications/books/109107.aspx>



## Stage 1 – Desired Results

<p><b>Established Goals</b></p> <p style="text-align: center;">What Content Standards, Program and/or Mission related goal(s) will this unit address?</p>	<p style="text-align: center;"><b>Transfer</b></p> <p style="text-align: center;"><i>Students will be able to independently use their learning to ...</i></p> <p style="text-align: center;"><b>What kinds of long-term, independent accomplishments are desired?</b></p>
<p style="text-align: center;"><b>Meaning</b></p> <p><b>UNDERSTANDINGS</b> <i>Students will understand that...</i></p> <p style="text-align: center;">What specifically do you want students to understand?</p> <p style="text-align: center;">What inferences should they make?</p>	<p><b>ESSENTIAL QUESTIONS</b> <i>Students will keep considering ...</i></p> <p style="text-align: center;">What thought-provoking questions will foster inquiry, meaning making, and transfer?</p>
<p style="text-align: center;"><b>Acquisition</b></p> <p><i>Students will know...</i></p> <p style="text-align: center;">What facts and basic concepts should students know and be able to recall?</p>	<p><i>Students will be skilled at...</i></p> <p style="text-align: center;">What discrete skills and processes should students be able to use?</p>

**Stage 2 – Evidence**

**Assessment Evidence**

Evaluative Criteria

Coding

**PERFORMANCE TASK(S)**

**How will students demonstrate their understanding (meaning-making and transfer) through complex performance?**

Are all of the Desired Results being appropriately assessed?

What criteria will be used in each assessment to evaluate attainment of the Desired Results? Regardless of the format of the assessment, what qualities are most important?

*Consider the six facets when developing assessments of understanding. Optional: Use the G.R.A.S.P.S. elements to frame an authentic context for the task(s).*

**OTHER EVIDENCE**

**What other evidence will you collect to determine whether Stage 1 goals were achieved?**

## Stage 3 – Learning Plan

Coding	<p style="text-align: center;"> <i>Pre-assessment</i>  <i>Formative Assessment</i> </p> <p>What pre-assessments will you use to check students' prior knowledge, skill levels and potential misconceptions?</p> <p style="text-align: center;">LEARNING EVENTS</p> <p>Are all three types of goals (acquisition, meaning, and transfer) addressed in the learning plan?</p> <p>Does the learning plan reflect principles of learning and best practices?</p> <p>Is there tight alignment across all three stages?</p> <p><i>While detailed lesson plans are not expected here, you should include sufficient information so that another teacher who is familiar with the unit's content could understand and follow the basic learning plan. That means not just stating WHAT learners will do but WHY the event is proposed - its purpose</i></p> <p><i>Optional: Use the column on the left to code your learning activities; e.g., their alignment with Stage 1 elements, T-M-A, or W.H.E.R.E.T.O.</i></p>	<p>How will you monitor students' progress towards acquisition, meaning-making, and transfer, during lesson events?</p> <p>What are potential rough spots and student misunderstandings?</p> <p>How will students get the feedback they need and opportunities to make use of it?</p>
<p>What's the goal for each event?</p>		

## Stage 1 – Desired Results

<b>Established Goals</b>	<b>Transfer</b>	
<p><b>National Driver Development Standards</b></p> <p>G1 Demonstrate a working knowledge of rules, regulations and procedures of operating an automobile</p> <p>G2 Use visual search skills to obtain correct information and make reduced-risk decisions for effective speed and position adjustments</p> <p>G3 Interact with other users within the Highway Transportation System by adjusting speed, space, and communications to avoid conflicts and reduce risk</p> <p>G4 Demonstrate balanced vehicle movement through steering, braking, and accelerating in a precise and timely manner throughout a variety of adverse conditions</p> <p style="text-align: right;"><i>Source: American Driver &amp; Traffic Safety Association</i></p>	<p style="text-align: center;"><i>Students will be able to independently use their learning to...</i></p> <p>T1 drive courteously and defensively without accidents or needless risk.</p> <p>T2 anticipate and adapt their knowledge of safe and defensive driving to various traffic, road and weather conditions.</p>	<p style="text-align: center;"><b>Meaning</b></p> <p><b>UNDERSTANDINGS</b> <i>Students will understand that...</i></p> <p>U1 A motor vehicle can become a lethal weapon, and driving one demands constant attention.</p> <p>U2 Defensive driving assumes that other drivers are not attentive and that they might make sudden or ill-advised moves.</p> <p>U3 Effective drivers constantly adapt to the various traffic, road, &amp; weather conditions.</p>
<p style="text-align: center;"><b>Acquisition</b></p> <p style="text-align: center;"><i>Students will know...</i></p> <p>K1 the driving laws and “rules of the road” for their state, province or country</p> <p>K2 meaning of traffic signs and signals</p> <p>K3 basic car features and functions</p> <p>K4 what to do in case of an accident</p>	<p style="text-align: center;"><b>ESSENTIAL QUESTIONS</b> <i>Students will keep considering...</i></p> <p>Q1 What must I anticipate and do to minimize risk and accidents when I drive?</p> <p>Q2 What makes a courteous and defensive driver?</p>	<p style="text-align: center;"><i>Students will be skilled at...</i></p> <p>S1 procedures of safe driving under varied traffic, road &amp; weather conditions</p> <p>S2 signalling/communicating intentions</p> <p>S3 quick response to surprises</p> <p>S4 parallel parking</p>

## Stage 2 – Evidence

Coding	Evaluative Criteria	Assessment Evidence
1. Transfer goals	<ul style="list-style-type: none"> <li>• skillful</li> <li>• defensive</li> <li>• anticipates</li> <li>• responsive</li> <li>• courteous</li> </ul>	<p><b>PERFORMANCE TASK(S)</b></p> <p>1. <i>Task:</i> drive from home to school and back, with parental and teacher supervision. The goal is to demonstrate skillful, responsive, and defensive driving under real-world conditions.</p> <p>2. <i>Task:</i> Same task as #1 but with rainy conditions.</p> <p>3. <i>Task:</i> Same task as #1 but with rush hour traffic.</p> <p>4. Prepare a tutoring booklet to help other young drivers come to understand the big ideas of safe and courteous driving.</p> <p>.....</p> <p><b>OTHER EVIDENCE</b></p> <p>5. Self-assess your driving and parking in Tasks 1 - 3 in terms of <i>courteous &amp; defensive</i>. Discuss adjustments made.</p> <p>6. Observation of student driver in a driving simulator or car off road.</p> <p>7. Written test required for getting a license.</p> <p>8. Road test required for getting a license.</p>
2. Transfer goals		
3. Transfer goals		
4. Meaning Goals	<ul style="list-style-type: none"> <li>• accurate</li> <li>• clear</li> <li>• complete</li> </ul>	
5. Meaning Goals	<ul style="list-style-type: none"> <li>• accurate</li> <li>• perceptive</li> </ul>	
6. Skill & Transfer Goals	<ul style="list-style-type: none"> <li>• skilled</li> </ul>	
7. Knowledge Goals	<ul style="list-style-type: none"> <li>• knows the law</li> <li>• drives well</li> </ul>	
8. Skill Goals	<ul style="list-style-type: none"> <li>• enough to pass driving test</li> </ul>	



## Stage 3 – Learning Plan

Coding

**Code Key:** T = Transfer, M = Meaning-making, A = Acquisition

*Pre-assessment*

Pre-assessment of driving knowledge, skill, understandings, and attitudes using surveys and simulators.

*Formative Assessment*

### LEARNING EVENTS

*Note: this is an overview of a drivers' ed. plan. A typical unit summarizes all learning events in more detail.*

Expert driving is modeled via video and the driving instructor. The requirement of the driver's test are reviewed.

All instruction is carried out and formatively assessed under a 4-step system for developing autonomy:

- the driving skill is explicitly taught and modeled
- the skill is practiced and performed with guidance in a simple/controlled situation
- the skill practiced and performed independently in a simple/controlled situation
- the skill is performed independently in more complex, authentic situations

Students practice the following driving skills in a simulator and in controlled driving situations with an instructor:

Car Check	Circles	Anticipation & Planning Ahead
Safety Checks	Pedestrian Crossings	Use of Speed
Controls & Instruments	Highways	Other Traffic
Starting up, Moving and Stopping	Turns	Intersections
Safe Positioning	Reversing	Darkness
Mirrors	Parking	Weather Conditions
Signals	Emergency Stopping	Rules & Laws
	Security	

Guided instruction is provided in terms of how to handle a variety of driving conditions, including: dry roads, wet roads, daylight, darkness, highway, city, country, during rush hour and off-peak hours.

The essential questions are used to focus attention during practice and guide reflection and self-assessment following each simulated or actual driving experience.

On-going assessment and feedback by the instructor as students practice new driving skills in the simulator and on the road. Look for such common misconceptions and skill deficits as -

- failure to check mirrors and peripheral vision
- not adjusting in response to changes in road, traffic or weather conditions
- not perceiving speed of oncoming cars during merges and turns

## Stage 1 – Desired Results

Established Goals	Transfer
<p>DE Geography Standards 3, 4: Understand unique character and culture of places, regions</p> <p>DE History Standards 3, 4: Interpret historical data, analyze historical artifacts, and understand westward expansion.</p> <p>2D - Students analyze cultural interactions among diverse groups. [Consider multiple perspectives.]  <small>National Standards for United States History, p. 108</small></p> <p>DE Eng/LA Standards 2, 4</p>	<p><i>Students will be able to independently use their learning to...</i></p> <ul style="list-style-type: none"> <li>• Compare the lives of pioneers on the prairie and 'pioneers' today.</li> <li>• Transfer their understanding of the pioneers to the perspective of native Americans and immigrants today.</li> </ul>
	<h3 style="margin: 0;">Meaning</h3>
<p><b>UNDERSTANDINGS</b>  <i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• Many pioneers had naive ideas about the opportunities and difficulties of moving West.</li> <li>• People move for a variety of reasons -- for new economic opportunities, greater freedoms or to flee something.</li> <li>• Successful pioneers rely on courage, ingenuity, and collaboration to overcome hardships and challenges.</li> <li>• The settlement of the West threatened the lifestyle and culture of Native American tribes living on the plains.</li> </ul>	<p><b>ESSENTIAL QUESTIONS</b>  <i>Students will keep considering...</i></p> <ul style="list-style-type: none"> <li>• Why do people move? Why did the pioneers leave their homes to head west?</li> <li>• How do geography and topography affect travel and settlement?</li> <li>• Why did some pioneers survive and prosper while others did not?</li> <li>• What is a pioneer? What is "pioneer spirit"?</li> <li>• Whose "story" is it?</li> <li>• What happens when cultures collide?</li> </ul>
	<h3 style="margin: 0;">Acquisition</h3>
<p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>• key facts about the westward movement and pioneer life on the prairie</li> <li>• pioneer vocabulary terms</li> <li>• basic geography (i.e., the travel routes of pioneers and location of their settlements)</li> <li>• key factual information about Native American tribes living on the plains and their interactions with the settlers</li> <li>• recognize, define, and use pioneer vocabulary in context</li> </ul>	<p><i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> <li>• using research skills (with guidance) to find out about life on the wagon train and prairie</li> <li>• expressing their findings orally and in writing</li> </ul>

## Stage 2 – Evidence

### Evaluative Criteria

#### PERFORMANCE TASK(S):

- Create a museum display, including artifacts, pictures, and diary entries, depicting "a week in the life" of a family of settlers living on the prairie. (What common misunderstandings do folks today have about prairie life and westward settlement?)
- Write 1 letter a day (each representing a month of travel) to a friend "back east" describing your life on the wagon train and the prairie. Tell about your hopes and dreams, then explain what life on the frontier was really like. (Students may also draw pictures and explain orally.)
- Museum docent speech - How are we 'pioneers'? How are we like and unlike the people on the prairie?
- Imagine that you are an elderly tribal member who has witnessed the settlement of the plains by the "pioneers." Tell a story to your 8-year old granddaughter about the impact of the settlers on your life. (This performance task may be done orally or in writing.)

#### OTHER EVIDENCE:

- oral and/or written response to one of the Essential Questions, using pioneer vocabulary in context
- drawing(s) showing hardships of pioneer life
- test on facts about westward expansion, life on the prairie, and basic geography
- explanation of the "memory box" contents
- quiz on facts about Native American tribes living on the plains

### Assessment Evidence

Students will need to show their learning by –

## Stage 3 – Learning Plan

### Summary of Key Learning Events and Instruction

*The teaching and learning needed to achieve the unit goals.*

- Use K-W-L to assess students' prior knowledge and identify learning goals for the unit.
- Revise Prairie Day activities (e.g., substitute Oregon Trail 2 computer simulation for "dress the pioneer" and ask for journal entries while the simulation is played).
- Include other fictional readings linked to the identified content standards/understandings (e.g., Little House on the Prairie, Butter in the Well).
- Create a "timeline map" of a pioneer family's journey west.
- Add non-fiction sources to accommodate various reading levels, such as Life on the Oregon Trail; Diaries of Pioneer Women, and Dakota Dugout. Guide students in researching the period using a variety of resources.
- Stage a simulated meeting of a council of elders of a Native American tribe living on the plains, to have students consider a different perspective.
- Discuss - "What should we do when threatened with relocation - fight, flee, or agree to move (to a reservation)? What impact would each course of action have on our lives?"
- Review the scoring rubrics for "memory box," museum display, letters, and journals before students begin the performance tasks. Include opportunities for students to study examples of these products.

**Stage 1 – Desired Results**

**Established Goals**

Maryland Visual Arts

Standard 1.2a: Compare how artists use narrative conventions in selected artworks

Standard 1.2b: Create narrative artworks from observation, memory, and imagination that show setting, characters, action, and differing points of view

Standard 2.3b: Plan personal artworks that interpret the unique styles and forms of different artists

Standard 3.2a: Communicate ideas and concepts by manipulating elements of art and principles of design to achieve specific visual effects

Standard 4.2c: Formulate, apply, and communicate criteria for making aesthetic judgments about personally created artworks and the artworks of others

**Transfer**

*Students will be able to independently use their learning to...*

- Create original narratives based on various themes and media.
- Use the artistic process in the creation of original narrative works.
- Select and effectively apply different media and conventions to the narrative.
- Analyze and critique works of art (including their own) against criteria.

**Meaning**

**UNDERSTANDINGS**

*Students will understand that...*

- Ideas for artworks may come from observations, imagination, personal experiences, and/or other artists
- Artists use narrative conventions similar to oral and written storytelling to tell stories.
- Artists select, organize, and manipulate art elements and principles of design to create specific effects and communicate meaning
- Decisions about art and artmaking can be based on established and personally developed criteria.

**ESSENTIAL QUESTIONS**

*Students will keep considering...*

- Where do artists get their ideas?
- How do artists tell stories with images?
- How can meaning be communicated in artworks?
- What do artists consider when making decisions about their work?

**Acquisition**

*Students will know...*

- background information on Jacob Lawrence, Romare Bearden, and Faith Ringgold
- key vocabulary and processes related to visual narrative, narrative conventions, art media and techniques
- stages of planning and finalizing compositions

*Students will be skilled at...*

- comparing, analyzing and discussing artworks
- generating ideas through brainstorming and sketching
- planning, selecting and organizing a variety of materials and images in a composition

Stage 2 – Evidence

Coding	Evaluative Criteria	Assessment Evidence
M	<ul style="list-style-type: none"> <li>• effective use of narrative conventions (characters, action, setting), art elements and design principles to communicate a story</li> </ul>	<p><b>PERFORMANCE TASK(S)</b></p> <p><u>Analysis/Development of Personal Narrative</u>                      Students will analyze and compare artworks by Jacob Lawrence, Romare Bearden, and Faith Ringgold to identify characteristics of their style and ways they use narrative conventions to communicate visual stories.</p> <p>Students will use information learned from the analysis to generate ideas for a personal narrative by planning a series of sketches, selecting one idea to enlarge and finalize in a medium (collage, mixed media, and/or paint) influenced by their study. Students will prepare the final work for an exhibit.</p> <p>.....</p> <p><b>OTHER EVIDENCE</b></p> <ul style="list-style-type: none"> <li>• Student self-reflections defending decisions made in creating, selecting media, and completing narrative compositions.</li> <li>• Teacher observations of the artistic process of planning, use of materials, work habits, and safety procedures.</li> </ul>
T	<ul style="list-style-type: none"> <li>• effective use of selected media</li> <li>• craftsmanship</li> <li>• insightful, complete, and well-written analysis</li> </ul>	
M	<p>thoughtful, clear, thorough</p>	
A	<p>accurate, disciplined, careful</p>	

# Stage 3 – Learning Plan

Coding

Pre-assessment

Formative Assessment

## LEARNING EVENTS

**Lesson 1** (Background and research, analyze, observe)  
 Students will be introduced to three artworks. They will be asked to determine which one best "tells" a story and to identify what in the work contributes to storytelling. Teacher will guide students in analyzing a selected artwork to identify the narrative conventions (i.e., subject/characters, setting, time frame, action, text, sequence, etc.) used to communicate the story. Students will then work in pairs or trios to read about Jacob Lawrence, Romare Bearden, and Faith Ringgold and other narrative works by the artists. They will analyze and compare the artists' works to identify similarities and differences in themes or subject matter, use of narrative conventions/storytelling techniques and unique characteristics of their style. Based upon their group analysis and discussions, students will work from a writing prompt to draft a summary of their analysis.

**Lesson 2** – (Imagine/generate ideas, reflect)  
 Students will share drafts from previous class then look at a teacher-made narrative sample and discuss the subject matter, ways that the sample incorporated narrative conventions discussed in the previous class, stylistic elements, and compositional qualities. Students will be presented with the performance task activity and criteria for creating a personal narrative. They will discuss themes/subjects that have significance to them and plan 3 sketches for a personal narrative that incorporates stylistic elements and/or media choices observed in their analysis of Lawrence, Bearden, and Ringgold's work. Students will critique their sketches to determine which one most effectively tells a personal story.

**Lesson 3** – (Plan, experiment, reflect)  
 Students will select, refine, and enlarge one idea from their sketches that fulfills criteria established by the class, teacher and personal interests. Students will work in pairs to review each others' enlarged sketches and give feedback regarding effective narrative techniques and visual impact through choice of art elements and design principles. The teacher will demonstrate on the teacher-made sample ways to add paint, texture, and other collage components/materials to the composition. Students will experiment with collage and mixed media techniques by painting and/or collaging materials to parts of their sketches before applying them to the final composition. Students will complete a journal entry to reflect on the process and progress of their work.

**Lessons 4, 5, 6, 7** (Studio time: experiment, revise/refine, reflect)  
 Students will continue experimenting with media. Teacher will provide on-going feedback while students work and make refinements to the final composition. Students will share their works in progress, discuss processes and techniques, and consult with each other to determine what areas still need work and where modifications or changes may be needed. Students will complete a journal entry to reflect on the process and progress of their work at the end of each studio session.

**Lesson 8** – (Reflect/self-evaluate)  
 Students will finalize their compositions and prepare their work for exhibition. They will complete a self-reflection of the work process, discuss whether they met the established criteria, and defend the choices they made in completing their work.

## Stage 1 – Desired Results

### Established Goals

Maine Learning Results –  
H/PE Motor Skills 1, 2, 7, 8

Performance Indicators:

1. Demonstrate the correct use of skills in simplified versions of a variety of physical activities.
2. Identify the critical elements of more advanced movement skills.
8. Use feedback from others to improve a skill by focusing on critical elements of the skill.

### Transfer

*Students will be able to independently use their learning to ...*

- Maximize force production and accuracy in all physical activities involving striking (e.g., tennis), throwing (baseball), and kicking (e.g., soccer)
- Effectively seek and use feedback to improve their performance, in any endeavor.

### Meaning

#### UNDERSTANDINGS

*Students will understand that...*

- A muscle that contracts through its full range of motion will generate greater force.
- The entire body needs to be involved in movements requiring a great deal of force.
- Follow-through provides greater momentum on impact or release and helps to improve accuracy.
- Feedback is information during or after the movement.
- Self-directed learners analyze performance and make adjustments on the basis of feedback to improve their performance.

#### ESSENTIAL QUESTIONS

*Students will keep considering...*

- How can I hit with greatest power without losing control?
- How can I improve my performance (golf game)?

### Acquisition

*Students will know...*

- mechanics for the grip, stance and swing
- how club # relates to flight patterns
- factors affecting force production and control
- rules of the game (golf)

*Students will be skilled at...*

- executing the golf swing so that they ball takes flight and travels in a relatively straight pathway
- making adjustments to their movement in order to improve performance based on different types of feedback
- offering specific and corrective feedback to a partner

## Stage 2 – Evidence

Coding	Evaluative Criteria	Assessment Evidence
		<b>PERFORMANCE TASK(S)</b>
	<ul style="list-style-type: none"> <li>• distance</li> <li>• accuracy</li> <li>• accuracy</li> <li>• effective adjustment</li> <li>• effective adjustment</li> <li>• continuous improvement</li> </ul>	<p><u>Driving the Ball</u> - This performance task assesses students' ability to use a full swing in order to strike a ball so that it takes flight and travels in a relatively straight pathway.</p> <p><u>Putting Accuracy</u> - This performance task assesses students' putting skills in different situations (e.g., distance from hole, varied slopes, etc.) while demonstrating the ability to make adjustments to movements in order to improve accuracy based on feedback.</p> <p><u>Reading the Ball</u> - Students make shots and puts from different distances and course conditions while demonstrating the ability to make adjustments to improve accuracy based on feedback.</p> <p><u>Playing the Game</u> - Continued skill improvement and enjoyment of the game over time will provide the most "authentic" assessment for this unit.</p> <p>.....</p> <p style="text-align: center;"><b>OTHER EVIDENCE</b></p> <p><u>Par 3 Golf Test</u> - Students take a standardized golf test during which their various skill performances are videotaped for subsequent review and assessment. Students watch a videotape of their performance and check off the skill areas where they see themselves performing consistently well and identify the skills on which they need to work.</p> <p><u>Ongoing Skill &amp; Knowledge Assessments</u> - Students are given a golf skills self-assessment at the beginning of the unit that helps them analyze their skill levels. Students then complete a skill tracking assignment throughout the unit, moving from simple to more complex tasks. Tasks are matched with standards for completion so that students know when to move to the next task. It also gives them questions to assess their knowledge of rules of the game, club choices, etc.</p>



## Stage 3 – Learning Plan

Coding	<p style="text-align: center;">Show videotapes of people of various ages enjoying golf. Check for prior knowledge and skill levels via informal discussion and 1-1 observation and interview.</p> <p style="text-align: right; margin-right: 20px;"><i>Pre-assessment</i></p> <p style="text-align: right; margin-right: 20px;"><i>Formative Assessment</i></p> <p><b>Lesson #1 – Unit Introduction and Feedback</b> LEARNING EVENTS Pose essential questions and present an overview of the assessment tasks and major learning activities, and schedule. Questions: What types of feedback can you use in order to improve skill? How can feedback be used to increase accuracy and efficiency? Form Partnerships and introduce "golf" with hula hoops and different fun targets. Partners continue to practice giving 1 piece of positive specific feedback and 1 piece of instructional feedback. After a bit, introduce how we can get feedback from the result of movement and make conscious changes in movement to increase accuracy.</p> <p><b>Lesson #2 – Golf Grip and Stance</b> Instruct students on the golf grip. Partners take turns demonstrating each of the 3 grips to each other, offering and receiving feedback until each has identified the grip that they are most comfortable with. Introduce the stance using mechanics and skill cues outlined in the notes and have partners practice while giving each other feedback.</p> <p><b>Lesson #3 – Swing Mechanics</b> Questions: How can you hit the ball the greatest distance without losing control? What role does timing and speed of movement play in striking with a golf club so that the ball will take flight and travel in the desired direction? Review the proper mechanics for the grip and stance. Introduce the full swing mechanics and skill cues. Have partner practice without hitting the ball. Have them try to brush the grass. Then, practice with whiffle balls and short flight balls, taking turns giving and receiving feedback in partners. Introduce Individual Skill Sheets and have students begin self-assessments and skill cue targeting.</p> <p><b>Lessons #4-5 – Force Production and Feedback</b> Question: How are body segments and timing related to force production? Review basic stance and swing; then, demonstrate backswing and follow-through and the concepts behind controlling and producing force. Students practice driving the ball, with partners provide feedback. Complete the Reading the Ball Task and self-assess using the Skill Sheets.</p> <p><b>Lessons #6-7 – Controlling Force</b> Questions: How can you adjust your golf swing to increase accuracy when hitting to different distances? How is club # related to how the ball travels in the air? Students rotate around the field using an assortment of irons, golf balls, varied targets set at different distances. They experiment with choosing different # clubs, and practice making adjustments to their swing when dealing with different distances and clubs. Partners give and receive feedback, and complete Skill Sheets. Students continue to practice with feedback and modeling by teacher when needed. Complete the Driving the Ball task. Keep practicing and complete self assessment using the Skill Sheets.</p> <p><b>Lesson #8-9 – Putting and Control</b> Questions: What are the correct mechanics for a good putt? How is a putt different from swinging an iron? Give students putters and balls and assign them to a work station where they experiment with trying to come up with the most efficient way to putt the ball into the cup from different distances. Then, model proper stance and with student input come up with all of the important skill cues to focus on when working on effective putting. In pairs, students take turns putting, starting very close to the cup. If they make it they get to move their marker back one step. They continue taking turns. If they miss, on their next turn they must attempt that same distance again. Keep practicing and complete self assessment using the Skill Sheets.</p> <p><b>Lesson #10 – Golfing with Gusto</b> Discuss golf etiquette prior to the field trip to ***** Golf Club where students play 5-6 holes to apply their skills on the course.</p>
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## Stage 1 – Desired Results

### Established Goals

- CA Algebra I Standards**
- 3.0 Students solve equations and inequalities involving absolute values.
  - 4.0 Students simplify expressions before solving linear equations and inequalities in one variable.
  - 5.0 Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.
  - 6.0 Students graph a linear equation and compute the x- and y-intercepts
  - 7.0 Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations by using the point-slope formula.
  - 8.0 Students understand the concepts of parallel lines and perpendicular lines and how those slopes are related.
  - 9.0 Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

Where are students likely to misunderstand important ideas? Where are they most likely to struggle in applying knowledge and skill?

- Some students get mixed-up with negative slopes. Stress that they can place the negative in the numerator ("down and to the right") or the denominator ("up and to the left") and get the same result. Also, they should have understand that negative slope represent a line that falls as we read the graph from left to right.
- Students are often challenged by horizontal and vertical lines. Rather than just memorize rules for recognizing them, try to get them to "read" the equation. ("x=4" tells us that the x-coordinate is "4" regardless of the y-coordinate.

### Transfer

*Students will be able to independently use their learning to ...*

Recognize and solve real-world problems that are linear in nature.

### Meaning

#### UNDERSTANDINGS

*Students will understand that...*

1. Mathematics can efficiently describe naturally occurring patterns.
2. Linear equations and their graphs are concise methods for representing relationships that involve constant rates of change.
3. We have more than one way to represent and understand linear relationships, including equations (in various forms), graphs, and tables. One representation may be more suitable than another for our needs. Any one of these representations can be used to generate the other two.
4. Graphs of lines show us information that can be summarized in an equation.

#### ESSENTIAL QUESTIONS

*Students will keep considering...*

1. What is the best way to represent (a particular relationship)?
2. What are the defining characteristics of a type of relationship? How do we best measure and interpret them?
3. When would I prefer one algebraic representation of a line over another? Is there always only one best option?
4. When should I use an equation? A graph? A table? How do I know?

### Acquisition

*Students will know...*

1. What is the formula for finding slope?
2. What is the y-intercept?
3. What is the slope-intercept form of a linear equation?
4. What is the form of the equation of a vertical line? ... a horizontal line?
5. What is the slope of a vertical line? ... a horizontal line?
6. How are the slopes of parallel lines related? ... of perpendicular lines?

*Students will be skilled at...*

1. Finding distance and midpoint between two points.
2. Finding the slope between two points and interpret slope.
3. Identifying constant rate of change in real-world examples and recognize it as slope.
4. Writing equations and graph lines given slope and y-intercept.
5. Writing equations and graph lines given two points.
6. Changing between the various forms of lines and extract information necessary for graphing.
7. Recognizing parallel and perpendicular lines from their equations.
8. Graphing linear absolute value equations, and compare them to related linear equations without absolute value.
9. Graphing linear inequalities and compare them to related equations.

## Stage 2 – Evidence

Coding	Evaluative Criteria	Assessment Evidence
		<p><b>PERFORMANCE TASK(S)</b></p> <p><u>As the Crow Flies</u>                      You are the Flight Network Adviser for a new airline, in charge of developing how the flight network will function across the country. You need to choose the best hub for your airline and develop equations to describe the flight paths from that hub to six important destination cities. You must express and graph the relationship between average speed and distance traveled. Develop an equation for the pilots to use to estimate arrival times to the six cities (give a range). Finally, explain how the company could customize your formulas if they add routes to new cities in the future.</p> <p><u>The Linear Sampler: An Information Guide</u>                      You have been asked to develop an Information Guide for the School's Study Center. Your task is to identify and illustrate "real world" examples of different types of linear relationships, showing both algebraic and graphic representations for each. Include examples for: positive slope, negative slope, horizontal, vertical, inequalities, absolute value, and pairs of lines that are parallel or perpendicular.</p> <p>.....</p> <p><b>OTHER EVIDENCE</b></p> <p>.....</p> <p>Quizzes will be given throughout the unit to determine if students know:</p> <ul style="list-style-type: none"> <li>- the formula for finding slope. ... the y-intercept.</li> <li>- the slope-intercept form of a linear equation.</li> <li>- the form of the equation of a vertical line. ... a horizontal line.</li> <li>- the slope of a vertical line. ... a horizontal line.</li> <li>- how the slopes of parallel lines are related. ... of perpendicular lines.</li> </ul> <p>and if students can:</p> <ul style="list-style-type: none"> <li>- write equations and graph lines given y-intercept and slope, point and slope, and two points.</li> <li>- calculate the distance between two points and find the midpoint.</li> <li>- graph and interpret linear relationships that involve absolute value and linear inequalities.</li> </ul>
	<ul style="list-style-type: none"> <li>• Accuracy of the equations</li> <li>• Accuracy of graphic representations</li> <li>• Effective mathematical reasoning</li> <li>• Clear explanation and justification</li> <li>• Accuracy of the equations and graphic representations</li> <li>• Appropriate "real world" examples used</li> <li>• Use of proper mathematical terminology</li> <li>• Correct answers</li> <li>• Valid Reasons</li> </ul>	

## Stage 3 – Learning Plan

Coding	<div style="text-align: right; margin-bottom: 10px;"> <i>Pre-assessment</i>  <i>Formative Assessment</i> </div> <p style="text-align: center;"><b>LEARNING EVENTS</b></p> <ol style="list-style-type: none"> <li>1. Name That Spot - Students will investigate paired data from a geometric standpoint using only natural language and observation. Place two points on the board that are on the same line horizontally (don't actually draw a line at this point). Label them A and B. Ask students to describe what they see. How could they compare their locations? They should describe them in terms of one being to the left or the other to the right. They could estimate how far apart they are in inches. Draw a line through the points, the real number line, and choose a zero point somewhere between A and B. Mark off dashes that indicate individual units. Now what can they say about the points? They can now give them labels that indicate position, as well as describe the distance between them using the units indicated by the dashes. Ask them to locate the point that is exactly half-way between them. Ask for the arithmetic they used, and show them that they have simply averaged the two numbers. New example: Place two points on the board, A and B, that are not in a horizontal line.</li> <li>2. The Cartesian-Coordinate Plane, Midpoints, and the Distance Formula (A) Students will receive direct instruction in the graphing of ordered pairs and how to find the distance between two points and their midpoint. Use the previous event's discussion to generate the formula for distance between points. Show them the formula as it is given in textbooks. HOWEVER, see if anyone can relate it back to the Pythagorean Formula.</li> <li>3. How Much Can That Truck Hold? - Students will explore how one variable has a direct impact on a second in transporting sand. Tell students that you really love the seashore, and are considering redecorating your living room like the beach - paint the walls blue with an ocean mural on one side, set-up some beach chairs and an umbrella...but first you need to buy sand - a lot of sand. How many bags of sand do you need for an average-size living room. Solicit and check reasonable estimates. In the end, settle on something like 100 bags - 6000 pounds. Will you be able to get it all in one trip in a pick-up? ... There is a constant relationship between number of bags and weight - ask students to describe it. Have them create a chart for Home Depot to help customers who want to figure out how heavy a certain number of bags of sand will be and which kind of vehicle is best for which loads. How could we create a picture to represent this relationship?</li> <li>4. Students will receive direct instruction in simple linear relationships and graphing them by plotting points. Give students practice writing simple linear equations from verbal descriptions.</li> <li>5. Is it a Line? - In this event, students will explore sets of points that do not create a line and the special cases of horizontal and vertical lines. Give students the following four sets of points and have them graph them on separate sets of axes: a. (-3, -4), (1, 0) and (5, 4); b. (-3, -4), (1, 0) and (5, 5); c. (3, -5), (3, 0) and (3, 6); d. (-4, 3), (0, 3) and (2, 3). First question - for each line is there a line that hits all three points? (Yes, except for (b).) If so, draw the line. For example (b), how many lines are there that hit at least two points? (3 distinct lines.) For all combinations of points (3 per exercise), evaluate slope. Discuss findings. Differentiate between slope being 0 for any horizontal line and slope not existing for a vertical line. If slope is 0, what happens to <math>y = mx + b</math>?</li> <li>6. How Far From Home? Students will consider the difference between location relative to a certain point and distance from that point, motivating absolute value equations. Draw a line on the board, representing a road that stretches from East to West. Draw a house at 0 and a person 10 miles to the left. Justify labeling this position as -10 based on past experience with the number line. Tell students that the person is going to travel East at 2 miles per hour. How long until they will be home? If they keep walking, where will they be after 8 hours?...</li> </ol>
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**Stage 1 – Desired Results**

**Established Goals**

**Virginia Mathematics Standards 1.11**  
 The student will tell time to the half hour, using an analog or digital clock.

**Transfer**

*Students will be able to independently use their learning to...*

use knowledge of time to make plans and schedule activities.

**Meaning**

**UNDERSTANDINGS**

*Students will understand that...*

- Measuring the passage of time helps us better plan and organize activities.
- Humans measure time in a variety of ways.
- Different situations call for different degrees of time precision.

**ESSENTIAL QUESTIONS**

*Students will keep considering...*

- How would life be different if we couldn't tell time?
- How do we know what time it is?
- How do people measure time?
- How precise do we need to be (in a given situation)?

**Acquisition**

*Students will know...*

- time-related vocabulary terms: hours, minutes, seconds, late, early.
- different devices that people use to measure time: clock, watch, sundial.

*Students will be skilled at...*

- telling time
- communicating what time it is

## Stage 2 – Evidence

### Assessment Evidence

*Students will need to show their learning by –*

**Evaluative Criteria**  
 • accurate time placement shown on each clock  
 • explanation clearly shows understanding of time frames  
 • appropriate use of time-related vocabulary

**PERFORMANCE TASK(S):**

Imagine that you are in charge of the cafeteria and must help the cafeteria staff know when to begin preparing lunch for the primary lunch shift. You know that it takes 2 hours and 15 minutes to prepare lunch. To help the staff be ready to serve lunch on time, create two analog clocks to hang on the wall in the kitchen. One clock will show what time to start preparing lunch. The other clock will show when the kids will arrive to eat. When you have completed the clocks, write a note\* to explain to the school principal what time the kitchen staff will begin preparing lunch in order to have it ready for the primary lunch shift.

[\*This can be done orally by students who are not yet proficient at independent writing].

**OTHER EVIDENCE:**

- worksheets on the "clock"
- quiz on "measuring devices"
- teacher observations of students at work throughout the unit
- oral questioning on telling time (on-going)

## Stage 3 – Learning Plan

### Summary of Key Learning Events and Instruction

*The teaching and learning needed to achieve the unit goals.*

- Begin with a K-W-L on the question: "How do we measure time?"
- Build on student answers by showing various time measuring devices (e.g., sundial, watch, grandfather clock, egg timer).
- Present and discuss the essential question, "what might happen if we didn't have a way of telling time?"
- Clock Repairman - Have students pretend that they need to fix a broken clock by cutting & pasting the numbers back onto a paper cutout.
- T.V. Guide - Have students list the times of their favorite t.v. shows (for 1 day or 1 week) in sequential order. Then, chart how much time would be needed to watch the selected shows.
- Have students work in cooperative groups to plan the amount of time it would take for various activities (e.g., walk to the cafeteria, watch a movie, eat breakfast, etc.)
- Present a time-planning task similar to the culminating performance task. Guide students in completing the task.
- Provide direct instruction as needed on time telling skills.

## Stage 1 – Desired Results

### Established Goals

#### Virginia Standards of Learning Music – Grade 1

- 1.1 The student will sing a repertoire of songs and play instruments.
  1. Sing songs that contain sol, mi, and la pitches.
- 1.2 The student will perform rhythmic patterns.
2. Demonstrate melodic rhythm.
- 1.3 The student will respond to music with movement.
3. Demonstrate locomotor and non-locomotor movements.
- 1.4 The student will create music through a variety of experiences.
  1. Improvise, using classroom instruments, body percussion, and movement.
  2. Use the voice in speech and song.

\*Unit adapted from Virginia Beach City Public Schools

### Transfer

*Students will be able to independently use their learning to...*

- Recognize beat in music and follow a steady beat.
- Evaluate musical performances.

### Meaning

#### UNDERSTANDINGS

*Students will understand that...*

- Sounds that have no steady beat have no predictable pattern.
- The foundation of rhythm is pulse (steady beat) which continues through sound and silence.
- The voice has different qualities for different functions: whispering, shouting, speaking, and singing.
- The quality of a performance influences the enjoyment level of both the listener and the performer.

#### ESSENTIAL QUESTIONS

*Students will keep considering...*

- What sounds in our environment have a steady beat?
- How does steady beat look and feel?
- How does a person learn to sing?
- What is the difference between speaking and singing?
- What makes a performance good?

### Acquisition

*Students will know...*

that not all sounds have a beat.  
how steady beat looks and feels.  
when sounds go up and down.  
the sound of a minor 3rd (sol-mi).  
a limited repertoire of songs.  
the difference between speaking, singing, whispering and shouting.

*Students will be skilled at...*

- differentiating between sounds that have a beat and those that do not
- demonstrating steady beat (pulse) individually and in a group
- echoing sol-mi tonal patterns within student's singing range
- singing selected age-appropriate songs.
- demonstrating vocal qualities: singing, speaking, whispering, calling
- expressing an opinion about the quality of a performance

## Stage 2 – Evidence

Evaluative Criteria	Assessment Evidence <i>Students will need to show their learning by --</i>
PERFORMANCE TASK(S):	
accuracy	<p>Performance assessment is on-going. Teachers will assess students as they engage in the following learning activities - Beat/No Beat, Steady Beat Silent Walking Game, Melody Up/Down, Timbre: Speaking/Singing Game - according to the following rubric:</p> <ul style="list-style-type: none"> <li>4 = Mastery - accurate throughout entire performance</li> <li>3 = Competent - accurate almost all of the performance (expected level for majority of students)</li> <li>2 = Developing - accurate for part of the performance</li> <li>1 = Emerging - very little accuracy</li> </ul>
OTHER EVIDENCE:	<ul style="list-style-type: none"> <li>• Students will self-assess their individual performance.</li> <li>• Students will tell what they liked about a group performance. They will give their opinions regarding how well the group stayed together and followed the beat and how correctly they used their instruments or voices.</li> </ul>

## Stage 3 – Learning Plan

### Summary of Key Learning Events and Instruction

*The teaching and learning needed to achieve the unit goals.*

Rhythm: Beat/No Beat - Children recall things in their environment that have a steady beat (clocks, heartbeat, car direction blinker), and create a movement depicting it. Practice the movement for 8 beats.

Rhythm: Steady Beat Silent Walking Game - Students walk the beat to music played by the teacher. Feet must stop when music stops. Children can be "caught" by the teacher for walking when music stops, talking, or touching another person. Students earn their way back into the game by sitting quietly in their seats.

Melody: Up/Down - Children make sounds that match the squiggles; then make up their own squiggles and perform for each other. Children draw squiggles as teacher plays short melodic phrases.

Timbre: Speaking/Singing Game - "Do What I Sing/Do Not Do What I Speak" Children should only respond to commands given with a singing voice. Once procedure is established, students become leaders and must demonstrate their singing or speaking voices.

Aesthetics: Discussion - Students will tell what they liked about a group performance. They will give their opinions regarding how well the group stayed together and how correctly they used their instruments or voices.



## Stage 1 – Desired Results

### Established Goals

### Transfer

*Students will be able to independently use their learning to...*

### Meaning

#### UNDERSTANDINGS

*Students will understand that...*

#### ESSENTIAL QUESTIONS

*Students will keep considering...*

### Acquisition

*Students will know...*

*Students will be skilled at...*

**Stage 2 – Evidence**

Coding

Evaluative  
Criteria

Assessment Evidence

PERFORMANCE TASK(S)

OTHER EVIDENCE

### Stage 3 – Learning Plan

Coding

*Pre-assessment*

*Formative  
Assessment*

**LEARNING EVENTS**

