NORTHERN ARIZONA UNIVERSITY

Department of STEM Education

CANDIDATE WORK SAMPLE

[Candidate Name]

Term:

School Name

Grade(s):

Class Title:

Unit Topic:

Mentor Teacher:

University Supervisor:

CWS Grader:

Welcome to the Candidate Work Sample (CWS), the culminating project for all NAUTeach student teachers. The CWS serves as a comprehensive documentation of your instructional planning and reflection on a specific unit. Detailed requirements for the CWS are outlined in the accompanying directions and rubric. To successfully pass the CWS, the teacher candidate (TC) must achieve a score of 2 or 3 for each item on the rubric, as any final score of 1 in these categories will result in a failure to pass.

This template is structured to guide you through the introduction (Section 1), unit planning (Section 2), assessment (Part 3), and reflection (Part 4) phases of your instruction. Note, the template does not specify one set pathway that your unit should follow – **you will need to choose the format of certain elements** (e.g., practice-based performance assessment) to fit your topic and classroom context. We recommend reviewing the entire template before you begin to familiarize yourself with its contents. It's important to note that you will be required to gather meaningful assessment data throughout your unit.

The primary aim of this Key Assessment is to immerse the TC in the practice of teaching. By reflecting on both planned and implemented interactions with students, you will assess how these interactions fostered the advancement of student ideas. Furthermore, you will evaluate your effectiveness in responding to student thinking by strategically planning "what, why, and how" to teach a unit that positively impacts student learning.

This assessment serves as evidence of your readiness to embark on your professional journey as an educator. Moreover, the CWS embodies best practices that cultivate a mindset essential for ongoing professional growth. Emphasizing a focus on what 6-12 grade students have learned during the unit of instruction, you will analyze the impact of your planning and teaching on student learning through the documentation of student work.

Section 1: Introduction

The first section of your CWS focuses on getting to know the context you are teaching in and the individual resources of your students and their communities.

Dynamics and Demographics

STEP 1. Provide an overview of the community and school where you are currently teaching, including a breakdown of demographics. This may encompass various demographic factors such as racial and cultural backgrounds, socio-economic backgrounds, nationalities, and other pertinent information.

STEP 2. Present an overview of the classroom in which you will be collecting data, with a specific focus on the class you are targeting for data collection. Describe the demographics of the students, including factors such as racial and cultural backgrounds, socio-economic status, nationalities, students with Individualized Education Programs (IEPs) and 504 plans, Multi-Language Learner (MLL) status, and any other relevant information.

STEP 3. Consider the diverse community, cultural, and individual resources available to enhance unit planning. **<u>Please describe</u>** relevant community, cultural, and individual resources that can drive your unit planning.

Section 2: Unit Plan

The second section of your CWS focuses on planning an engaging and effective instructional unit.

This template serves as a structured guide for creating math units. It draws from Arizona State Mathematical Standards, Common Core Mathematical Practices, NAUTeach Instructional Framework, and emphasizes real-world application. Additionally, it recognizes students' ideas as vital instructional resources and encourages collaborative learning. The template's sections are designed to be used sequentially, building upon one another to create a comprehensive math unit that promotes active mathematical engagement among students. We also recognize that some recursiveness is involved as previously completed sections are revised based on ideas and concerns that emerge later on in the template.

Unit Author(s):	
Unit Title:	
Math Subject Area & Grade:	

STAGE 1: PLANNING FOR ENGAGEMENT WITH IMPORTANT MATH IDEAS

In this initial stage of unit planning, the emphasis is unpacking standards, crafting meaningful learning experiences, and pinpointing key mathematical concepts students must conceptually construct and procedurally understand. We utilize a forward-thinking approach by drafting a final assessment which serves as a guidepost for the entire unit, ensuring that our teaching aligns with the desired learning outcomes.

PART A: Unpack the Standards. Review the appropriate content-specific domain or conceptual category, cluster, and standard. The content-specific domain or conceptual category, cluster, and standard will serve as the foundation for student learning objectives of the unit. **(Include nomenclature and wording on all standard and practice references.)** *(For information on how this part will be graded see Rubric Section 2 – Dimension 1).*

STEP 1. Unit Standards. List the content standard(s) students will learn during this unit. If the unit does not cover the entire content standard, go back to the standard(s) and highlight the parts of the standard your unit will be covering. Note if standard (s) is a major or supporting cluster.

Standard 1:
Standard 2:
Standard 3:

STEP 2. Standard Progressions (Vertical Alignment). List the content standard(s) progression for each content standard in the unit. Copy and paste the standards above, then provide at least two content standards before and after each unit standard. (Algebra I, II, and Geometry resource.)

Standard 1:   − Standards before: − Standards after:

Standard 2:
− Standards before:
− Standards after:

Standard 3:
− Standards before:
− Standards after:

STEP 3. Summary of Progressions. List the Key Understandings and Skills for each content standard listed in Step 1 and Step 2. How to read the Mathematics Common Core State Standards is on page 5.

Standard 1 Key Understandings & Skills:
− Key Understandings & Skills before:
− Key Understandings & Skills after:

Standard 2 Key Understandings & Skills:
− Key Understandings & Skills before:
− Key Understandings & Skills after:

Standard Key Understandings & Skills:
− Key Understandings & Skills before:
− Key Understandings & Skills after:

The following steps are only for the part(s) of the standard(s) your unit will be covering.

STEP 4. List the Key Understandings and Skills the unit will cover – list only what you are teaching from step 3.

STEP 5. In mathematics rigor means, conceptual understanding, procedural skill and fluency, and application. Looking at the list of standards above, use the following link (**Guiding Principles for Increasing Rigor)** to explain how your unit develops rigor through conceptual understanding, procedural skill and fluency, and application.

Conceptual Understanding:

Procedural Skill and Fluency:

Application:

STEP 6. Identify daily learning objectives. In collaboration with your cooperating teacher, provide the standard(s) you will cover each day (these can repeat over days), a daily objective (one objective may cover more than one day), a tentative breakdown of what you will teach each day (list *what* content the students will learn).

Day 1:
Standard(s):
Objective (what):
Tentative breakdown:

Day 2:
Standard(s):

Objective (what):
Tentative breakdown:

Day 3:
Standard(s):
Objective (what):
Tentative breakdown:

Day 4:
Standard(s):
Objective (what):
Tentative breakdown:

Day 5:
Standard(s):
Objective (what):
Tentative breakdown:

Day 6:
Standard(s):
Objective (what):
Tentative breakdown:

Day 7:
Standard(s):
Objective (what):
Tentative breakdown:

STEP 7. Identify the relevant [Mathematical Practice Standard(s)](#) (MPs) that you are working toward. Give a brief description of how you will meet the math practices implemented in your unit. It is suggested to focus on 2 or 3 MPs.

MP #:

MP #:

PART B: Context *(For information on how this part will be graded see Rubric Section 2 – Dimension 2)*

STEP 1. **Incorporating Community, Cultural, and Individual Resources**
Using the information in Part 1: Introduction (pg. 3), provide a description of **how you can integrate** your students' community, cultural, and individual resources (identified above) into your unit planning. For example, you can collaborate with local organizations, businesses, museums, libraries, and parks aligned with your topic; for instance, a math unit on geometry could involve visits to architectural landmarks or collaboration with local artists. For environmental conservation, partnerships with nature centers or participation in community clean-up events are invaluable. You can integrate traditions, languages, and heritage reflective of student diversity through guest speakers, multicultural literature, and student-led activities. Encourage students to share their own cultural backgrounds, fostering inclusivity and respect. By leveraging these resources, you can create engaging lessons that connect classroom content with real-world contexts, promoting deeper student understanding.

STEP 2. Brainstorm a list of **resources** (websites, articles, books, etc.) that help you better understand the content. Describe different authentic contexts, tasks, or applications that may guide the unit. We are asking you to research additional resources.

STEP 3. Based on the entire unit, develop a challenging problem or question to frame the big picture of the authentic context, tasks, or application for the students. How will you connect and demonstrate the progression of the different instructional days?

PART C: Construct an Example Summative Assessment & Connect Objectives *(For information on how this part will be graded see Rubric Section 2 – Dimension 3)*

Describe plans for the summative assessment and how it aligns with unit objectives. Remember that summative assessment is referring to the end of unit assessment. This could be something you get directly from your CT or you create with their assistance. It can be a typical math assessment, project, presentation, etc.

PART D: Formative Assessment & Connect Objectives *(For information on how this part will be graded see Rubric Section 2 – Dimension 3)*

List different formal and informal formative assessments you will be using during instruction and how they align with unit objectives from Part A Step 6. [Ideas about formal and informal formative assessment.](#)

PART E: Standard, Task, & Assessment Alignment *(For information on how this part will be graded see Rubric Section 2 – Dimension 3)*
Copy and paste the stadards and objectives from Part A Step 6. Take the tentative breakdown from Part A Step 6 and identify the main task(s) students will be completeing. Include a brief statement about what the students will be doing during the task. Then, explain how assessment(s) from Parts C and D are aligned with the standards, daily objectives, and tasks.

Day 1:
Standard(s):
Objective (what):
Task (how):
Formative Assessment(s):
Summative Assessment:

Day 2:
Standard(s):
Objective (what):
Task (how):
Formative Assessment(s):

Summative Assessment:

Day 3:
Standard(s):
Objective (what):
Task (how):
Formative Assessment(s):
Summative Assessment:

Day 4:
Standard(s):
Objective (what):
Task (how):
Formative Assessment(s):
Summative Assessment:

Day 5:
Standard(s):
Objective (what):
Task (how):
Formative Assessment(s):
Summative Assessment:

Day 6:
Standard(s):
Objective (what):
Task (how):
Formative Assessment(s):
Summative Assessment:

Day 7:
Standard(s):
Objective (what):
Task (how):
Formative Assessment(s):
Summative Assessment:

STAGE 2: ELICITING IDEAS ABOUT THE CONTENT AND UNIT
(For information on how this part will be graded see Rubric Section 2 – Dimension 3)

The second stage of unit planning requires anticipating students' initial ideas, misconceptions, and potential struggles. By collaborating with experienced educators and using online resources, we can identify common challenges and tailor our instructional strategies accordingly. This unit will address specific difficulties related to prior and developing knowledge, utilize technology and manipulatives to support learning, and promote productive struggle through well-designed activities and questions, ensuring an inclusive and engaging environment for all students.

Part A: Strengths and Struggles
Sit with your cooperating teacher and discuss the ideas students will bring to the unit. In addition, look online for common misconceptions related to your unit topic. What unit ideas will be a struggle or strength for the students? Use the bullets below to help draft your response.
- What are the common misconceptions and initial ideas that can be anticipated?
- What implications does this have on my planning and instruction?
- What are some challenges with content (e.g., prior knowledge, misconceptions, common difficulties) expected during the unit based on ideas learned from each task?

Part B: Instructional Supports
Describe how the unit will use technology or manipulatives to support targeted standards. Focus on how you will use precise language and representations (e.g., pictures, symbols, equations) to ensure accuracy and enhance understanding.

Part C: Productive Struggle and Content Understanding
Highlight activities and questions that will promote productive struggle and ensure the unit has a low floor, high ceiling to approach content understanding and is student-friendly.

STAGE 3: DEVELOPING RIGOR OVER THE COURSE OF A UNIT
(For information on how this part will be graded see Rubric Section 2 – Dimension 2 & 3)

The goal of the third stage is to offer learning experiences that help students align their ideas with key mathematical concepts, building a strong mathematical understanding of the content. This involves designing or adapting purposeful tasks that align with the important math ideas identified earlier. This stage comprises the majority of the unit, as students develop their explanations through active engagement in the standards for mathematical practices.

PART A. Launching the Unit
Step 1: How will the context be set from day 1? Provide a basic overview of how students will be introduced to the unit through a problem situation, driving question, or application. Establish a need-to-know and engage students at the start of the unit.

Step 2: Differentiation
Detail scaffolding, differentiation, and support strategies for culturally diverse students, those below grade level, and those needing enrichment.

PART B: Develop Unit Task Outline.

Provide the outline of each day's purposeful task that includes the introduction or highlighting of math ideas to reason with, the task launch, the procedures for the main task, and closure. Each task may take one or more days. For each task, identify target standards, Standards for Mathematical Practices (MPs), learning objective(s), and formative assessment(s) that will guide student sensemaking in that task.

   *Include hyperlinks to tasks, resources, etc. as needed.

Purposeful Task	Outline*
Task #**X**: Day(s) **1-X** Standard: SMP: Objective: Formative Assessment:	**Launch task:** Introduction or highlighting of math idea to reason with – **Task Instructions:** Provide instructions to complete the task – **Main task:** include thought provoking questions, opportunities for representing ideas in different ways, technology, differentation, precise language, etc. – **Closure: This should be tied to the learning objective for the day** –

Purposeful Task	Outline*
Task #**X**: Day(s) **X-X** Standard: SMP: Objective: Formative Assessment:	**Launch task:** Introduction or highlighting of math idea to reason with – **Task Instructions:** Provide instructions to complete the task – **Main task:** include thought provoking questions, opportunities for representing ideas in different ways, technology, differentation, precise language, etc. – **Closure: This should be tied to the learning objective for the day** –

Purposeful Task	Outline*
Task #**X**: Day(s) **X-X** Standard: SMP: Objective: Formative Assessment:	**Launch task:** Introduction or highlighting of math idea to reason with – **Task Instructions:** Provide instructions to complete the task – **Main task:** include thought provoking questions, opportunities for representing ideas in different ways, technology, differentation, precise language, etc. – **Closure: This should be tied to the learning objective for the day** –

Purposeful Task	Outline*
Task #**X**: Day(s) **X-X** Standard: SMP: Objective: Formative Assessment:	**Launch task:** Introduction or highlighting of math idea to reason with – **Task Instructions:** Provide instructions to complete the task – **Main task:** include thought provoking questions, opportunities for representing ideas in different ways, technology, differentation, precise language, etc. – **Closure: This should be tied to the learning objective for the day** –

STAGE 4: DEMONSTRATING KNOWLEDGE

The final stage of the unit focuses on consolidating and assessing students' understanding. This involves two crucial parts: finalizing the assessment and ways to elicit observable evidence of learning that will allow for accurate measurement of students' knowledge growth.

PART A: **Finalize Assessment**
Step 1: First, revisit and finalize *Stage 1:* PART E: Standard, Task, & Assessment Alignment. Then, provide a final evidence-based assessment with an answer key that shows what you would expect from your students at the end of the unit. You should create a folder in Google Drive labeld CWS. Within that folder, create two more folders labeled "Summative Assessment" and "Formative Assessments". You will place all assessments in those folders, then share a link to the folders in the space below.

Summative Assessment Link:

Formative Assessments Link:

Step 2: Give an evidence-based explanation that shows how the unit builds from the beginning to the summative assessment by including specific evidence from tasks. For help, refer to Stage 1 PART E: Standard, Task, & Assessment Alignment. You might find it helpful to create another folder within your Google Drive CWS folder labeled "Tasks". Then, provide the link in your evidence-based explanation below.

PART B: **Evidence**
Describe how the unit is designed to elicit direct observable evidence that supports group and individual learning. Provide aligned rubrics, answer keys, scoring guidelines, or other assessment protocols you will use to determine students' knowledge growth. These can be placed in your Google Drive CWS folder and used as evidence in your description below.

Section 3: Assessment

The third section of your Candidate Work Sample (CWS) centers on detailing and analyzing formative and summative assessment data gathered during the unit and the modifications made to your instruction in response to this data. *It is expected that all claims are supported by evidence.* Evidence includes samples of student work or personal journal entries (these should be saved in a Google Drive folder) and should be hyperlinked in the sections below.

Analyzing Assessment Data
STEP 1. Describe the formative and summative assessments designed and used during your unit.

STEP 2. Provide an overview of your analysis of the assessment data. Include relevant data and analysis to make a claim about your students' learning throughout the unit.

Modifying Instruction
Describe how you used assessment data to modify your instruction to improve student learning. Be specific and use examples from your classroom.

Section 4: Reflecting and Moving Forward

The fourth section of your Candidate Work Sample (CWS) centers on how the unit was implemented and how student ideas, communities, and/or cultural resources were integrated into your instruction.

Student Ideas, Communities, and/or Cultural Resources
Reflect on the ways in which student ideas, communities, and/or cultural resources were integrated into your instruction. Please provide specific examples. If you were to teach this unit again, is there anything you would change in regard? *(minimum of 500 words)*

Personal Reflection
Reflect on your personal and professional growth after completing the instructional unit. What have you learned and in what ways would you like to improve your teaching practice? *(minimum of 500 words)*

Item	Descriptors: InTASC	Approaching 1	Meets 2	Exceeds 3
Section 1: Introduction **Dynamics and Demographics**	**Dynamics and Demographics** Candidate identifies city, school, and classroom dynamics and demographics as well as community, cultural, and individual resources. *(InTASC 2)*	The candidate insufficiently describes the city/town, school, and classroom dynamics and demographics as well as community, cultural, and individual resources. Data are not supported by citations.	The candidate adequately describes the city/town, school, and classroom dynamics and demographics as well as community, cultural, and individual resources. Most data are supported by citations.	The candidate thoroughly describes the city/town, school, and classroom dynamics and demographics as well as community, cultural, and individual resources. All data are supported by citations.

Item	Descriptors: InTASC		Rating	Overall Dimension Rating
Section 2: Inquiry-Based Unit Plan	**Dimension #1: Alignment to the Standards** *The unit aligns with the letter and spirit of the CCSS:* *(InTASC 4 & 5)*			
	A. **Content Standards:** Targets a set of grade-level CCSS mathematics standard(s) to the full depth of the standards for teaching and learning.		Extensive Adequate Inadequate None	
	B. **Standards for Mathematical Practice** that are central to the lesson are identified, handled in a grade-appropriate way, and well connected to the content being addressed.		Extensive Adequate Inadequate None	
	C. **Content Coherence:** The content develops through reasoning about the new concepts on the basis of previous understandings. Where appropriate, provides opportunities for students to connect knowledge and skills within or across clusters, domains, and learning progressions.		Extensive Adequate Inadequate None	**1 2 3** **Rating Scale for Category I:** **3**: Extensive evidence for all the unit criteria in the category **2**: At least adequate evidence for all unit criteria **1**: Adequate evidence for some criteria in the category, but inadequate/no evidence for at least one criterion
	D. **Rigor:** Requires students to engage with and demonstrate challenging mathematics with appropriate balance among the following: – Application: Provides opportunities for students to apply mathematical concepts in real-world situations and solve challenging problems with persistence, choosing and applying an appropriate model or strategy to new situations. – Conceptual Understanding: Develops students' conceptual understanding through tasks, brief problems, questions, multiple representations and opportunities for students to write and speak about their understanding. – Procedural Skill and Fluency: Expects, supports and provides guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately.		Extensive Adequate Inadequate None	
	Dimension #2: Instructional Supports *The unit is responsive to varied student learning needs:* *(InTASC 1, 7, & 8)*			
	A. Includes clear and sufficient guidance to support teaching and learning of the targeted standards, including, when appropriate, the use of math action technology or manipulatives.		Extensive Adequate Inadequate None	**1 2 3** **Rating Scale for Category I:**

Criteria		Rating	Rating Scale
B. Uses and encourages precise and accurate mathematics, precise language, and concrete or abstract representations (e.g., pictures, symbols, expressions, equations, graphics, models) in the discipline.		Extensive Adequate Inadequate None	**3**: Extensive evidence for all the unit criteria in the category **2**: At least adequate evidence for all unit criteria **1**: Adequate evidence for some criteria in the category, but inadequate/no evidence for at least one criterion
C. Engages students in productive struggle through relevant, thought-provoking questions, problems and tasks that stimulate interest and elicit mathematical thinking.		Extensive Adequate Inadequate None	
D. Addresses instructional expectations and is easy to understand and use.		Extensive Adequate Inadequate None	
E. Provides appropriate level and type of scaffolding, differentiation, intervention and support for a broad range of learners. – Supports diverse cultural and linguistic backgrounds, interests and styles. – Provides extra supports for students working below grade level. – Provides extensions for students with high interest or working above grade level.		Extensive Adequate Inadequate None	
Dimension #3: Monitoring Student Progress (Assessment) *The unit regularly assesses whether students are mastering standards-based content and skills:* *(InTASC 6 & 7)*			
A. Is designed to elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted CCSS.		Extensive Adequate Inadequate None	**1 2 3**
B. Assesses student proficiency using methods that are accessible and unbiased, including the use of grade-level language in student prompts.		Extensive Adequate Inadequate None	**Rating Scale for Category I:** **3**: Extensive evidence for all the unit criteria in the category **2**: At least adequate evidence for all unit criteria **1**: Adequate evidence for some criteria in the category, but inadequate/no evidence for at least one criterion
C. Includes aligned rubrics, answer keys and scoring guidelines that provide sufficient guidance for interpreting student performance.		Extensive Adequate Inadequate None	
D. Use varied modes of curriculum-embedded assessments that may include pre-, formative, summative and self-assessment measures.		Extensive Adequate Inadequate None	

Item	Descriptors: InTASC	Approaching 1	Meets 2	Exceeds 3
Section 3: Assessment **Row 1 - Analyzing Assessment Data**	**Analyze Assessment Data** Candidates collect information on students' progress across the unit and use data from formative and summative assessments to analyze the progress of individual students and the class.	Candidate uses limited summative and formative assessment data to analyze student learning across the unit.	Candidate uses some summative and formative assessment data to analyze student learning across the unit.	Candidate uses a variety of meaningful summative and formative assessment data to analyze student learning across the unit.

Item	Descriptors: InTASC	Approaching 1	Meets 2	Exceeds 3
	(InTASC 6 & 8)			
Section 3: Assessment Row 2 - Modifying Instruction	**Modify Instruction** Candidates describe how they used assessment data to modify their instruction to improve student learning. *(InTASC 6)*	Candidate insufficiently describes how they used a variety of assessment data to modify their instruction.	Candidate adequately describes how they used a variety of assessment data to modify their instruction.	Candidate thoroughly describes how they used a variety of assessment data to modify their instruction.
Item	**Descriptors: InTASC**	**Approaching 1**	**Meets 2**	**Exceeds 3**
Section 4: Reflecting & Moving Forward Row 1: Teaching from a Resource Perspective	*Candidate reflects on the ways in which student ideas, communities, and/or cultural resources were used in instruction.* *(InTASC 2 & 3)*	The candidate insufficiently describes how they leveraged students' community, cultural, and individual resources in meaningful and authentic ways throughout the unit.	The candidate adequately describes how they leveraged students' community, cultural, and individual resources in meaningful and authentic ways throughout the unit.	The candidate thoroughly describes how they leveraged students' community, cultural, and individual resources in meaningful and authentic ways throughout the unit.
Section 4: Reflecting & Moving Forward Row 2: Personal Reflection	*Candidate reflects on personal and professional growth in their own teaching practice by implementing the CWS.* *(InTASC 9)*	Candidate provides an insufficient reflection on their personal and professional growth by implementing the CWS.	Candidate provides an adequate reflection on their personal and professional growth by implementing the CWS.	Candidate provides a highly accurate and perceptive reflection on their personal and professional growth by implementing the CWS.

Spring 2025 – Version 2