



Sample Oklahoma C³ Data Collection Instrument

Mathematics	English Language Arts
<p>Standards for Mathematical Practice:</p> <ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	<p>Descriptions for Students College, Career and Citizen Ready:</p> <ol style="list-style-type: none"> 1. Demonstrate independence 2. Build strong content knowledge 3. Comprehend as well as critique 4. Value evidence 5. Use technology and digital media strategically and capably 6. Come to understand other perspectives and cultures
<p>Students are:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Applying mathematics to real-life problems <i>Are students engaged in problem solving authentic problems that require complex thinking? Can students apply metacognitive strategies that allow them to monitor and evaluate their progress and change course as necessary to solve a problem? Do they create logical arguments and respond to the arguments of others?</i> <input type="checkbox"/> Solving complex problems <i>Do problems allow for multiple strategies and/or multiple solutions? Do students show evidence of discerning patterns to approach complex problems?</i> <input type="checkbox"/> Reasoning <i>Are students demonstrating the ability to decontextualize and contextualize and create a coherent representation of the problem? Are students evaluating the reasonableness of their results?</i> <input type="checkbox"/> Forming and testing predictions and conjectures <i>Do students draw and justify conclusions, make generalizations, use logical reasoning, predict, make judgments and recommendations?</i> <input type="checkbox"/> Communicating mathematical ideas <i>Are students using academic vocabulary in mathematics? Are they involved in collaborative discussions about mathematical concepts and procedures?</i> <input type="checkbox"/> Using tools such as: Pencil and paper, concrete model, rulers, protractors, calculators, spread sheets, computer algebra system, statistical package, dynamic geometry software <i>Are students using these to develop conceptual understanding, solve problems, gather data, gain insight, and recognize the limitation of such tools?</i> <input type="checkbox"/> Using and connecting verbal, numeric, graphic and symbolic representations 	<p>Students are:</p> <p>Independent:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Comprehending and evaluating complex texts <input type="checkbox"/> Construct effective arguments; convey multifaceted information <input type="checkbox"/> Independently discerning speaker's key points; request clarification; ask relevant questions <input type="checkbox"/> Build on others' ideas; articulate own ideas; confirm they have been understood <input type="checkbox"/> Demonstrate command of Standard English; acquire and use a wide-ranging vocabulary <input type="checkbox"/> Self-directed learner; seeking out and using resources including teachers, peers, print and digital resource materials <p>Building Strong Content Knowledge</p> <ul style="list-style-type: none"> <input type="checkbox"/> Establish base knowledge across wide range of subject matter <input type="checkbox"/> Engage with works of quality and substance <input type="checkbox"/> Become proficient in research and study <input type="checkbox"/> Purposefully read and listen to gain general and domain-specific expertise <input type="checkbox"/> Refine and share knowledge through writing and speaking <p>Respond to Demands of Audience, Task, Purpose, and Discipline</p> <ul style="list-style-type: none"> <input type="checkbox"/> Adapt communication to audience, task, purpose, and discipline <input type="checkbox"/> Set and adjust purpose for all writing, speaking, reading, listening, and language

- ❑ Appreciate nuances such as audience and tone, and connotations of words to meaning
- ❑ Know different disciplines call for different types of evidence

Comprehend and Critique

- ❑ Engaged and open-minded
- ❑ Work to understand author/speaker
- ❑ Question author/speaker's assumptions/premises
- ❑ Assess veracity of claims/soundness of reasoning

Value Evidence

- ❑ Cite specific evidence in oral/written interpretations of text
- ❑ Use relevant evidence with supporting points in writing/speaking
- ❑ Make reasoning clear to reader/listener
- ❑ Constructively evaluate others' use of evidence

Use Technology and Digital Media

- ❑ Thoughtfully employ technology to enhance subject
- ❑ Tailor searches to acquire useful information
- ❑ Integrate learning with technology
- ❑ Familiar with strengths and limitations of technological tools/mediums
- ❑ Select and use technology best suited to communication goals

Understand Other Perspectives and Cultures

- ❑ Appreciate divergent cultures/experiences/perspectives
- ❑ Seek to understand diverse perspectives
- ❑ Able to communicate effectively with people of varied backgrounds
- ❑ Evaluate other points of view critically and constructively
- ❑ Vicariously inhabit worlds/have experience through great classic and contemporary works of literature

<p>Teachers are:</p> <ul style="list-style-type: none"> ❑ Incorporating writing opportunities for students in mathematics. <i>Are students given opportunities to write and evaluate writing involving concepts and skills in mathematics?</i> ❑ Using effective questioning techniques that promote deep thinking, elicit higher order responses, and probe, extend, and clarify student thinking about mathematics <i>Are questions divergent and open-ended? Are questions about essential mathematical concepts and procedures? Does the teacher practice wait time? Is there equity in selecting students to respond?</i> ❑ Facilitating student engagement in doing mathematics <i>Does the teacher ask scaffolding questions, monitor and observe student work, encourage cooperative learning, and listen to student conversation?</i> ❑ Incorporating manipulatives and technology in instruction strategically <i>Are manipulatives and technology use accompanied by effective questioning and opportunities to make connections to the mathematical concepts? Do the manipulatives and technology enhance conceptual understanding of mathematics?</i> ❑ Encouraging students to make conjectures and ask questions; using student conjectures and questions to stimulate class discussion of mathematical concepts <i>Does the teacher encourage the creation of logical arguments and provide opportunities to critique the reasoning of others?</i> ❑ Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content <i>Does the teacher make rigorous mathematics accessible to all students?</i> ❑ Using multiple forms of assessment <i>Does the teacher frequently use observation, questioning, journaling, and other forms of formative assessment? Are assessments varied, incorporating performance tasks and extended opportunities for written expression?</i> 	<p>Teachers are:</p> <ul style="list-style-type: none"> ❑ Incorporate writing, speaking, listening, reading, and language opportunities throughout content areas <i>Are students using reading and writing opportunities with specific evidence requirements specific to content areas?</i> ❑ Incorporating small and large group discussion groups in the classroom <i>Are students composing questions from the assignment to use in speaking and listening opportunities?</i> ❑ Facilitating student engagement in content area <i>Are teachers facilitating learning opportunities that are student directed?</i> ❑ Facilitating independence <i>Are students encouraged to seek out answers and given positive reinforcement for attempts as well as success?</i> ❑ Constructing short research projects <i>Are students engaged in authentic research projects across content areas and integrated?</i> ❑ Requiring cited evidence for oral and written positions <i>Are students able to specifically cite evidence for positions?</i> ❑ Use Technology and Digital Media <i>Are there student projects that use technology and digital media to further the student's work?</i> ❑ Understand Other Perspectives and Cultures <i>Are students provided informative and literary text of diverse perspectives and cultures? Are there opportunities for the students to engage in cooperative learning via technology with those with differing perspectives and cultures?</i>
<p>Comments:</p>	