T-TESS Observation Evidence Sheet
7th Grade Math (Pi and Circumference of Circles)

Domain: Instruction

Dimension	Evidence	Rating
Achieving Expectations	The teacher models performance expectations by sharing her "story of a square." Learning objectives were explicitly communicated to the students and, even though difficult for some, were at the appropriate level. The objective was stated as, "We have two objectives. We want to understand the meaning of Pi. We also want to know this formula (pointing to formula on board) to find the area of a circle." Objectives were connected to prior knowledge and the larger context of what they were learning. "Remember last week we said to find the area…" and "Just like a rectangle has a measure around, a circle has measure going all the way around the outside." The sub-objectives were aligned and logically sequenced to reinforce the lesson's major objective. The teacher sees most students completing the formulas correctly. However, there is no evidence that students can explain what Pi means. The teacher used visuals at appropriate times such as the bike tire. In addition, she modeled when it was appropriate. Unfortunately "concisely communicated information" would not explain much of her directions and presentation of content. For example, internal summaries of where students were in the lesson and what to expect from the lesson were not provided. The lesson was sequenced. However, the time spent explaining and solidifying the difficult ideas at the end of the lesson was minimal. As the teacher introduced the vocabulary, she attempted to show the relationship between the diameter and radius to calculate corresponding measurements. While the initial explanation was provided, there was no elaboration to clarify this relationship with circumference. One student responded with "a circle has a radius, diameter and circumference." Students calculated the circumference of multiple circular objects utilizing practical materials in anticipation of collecting classroom data. They also compared circles and squares. The teacher implemented activities that taught and reinforced drawing conclusions, observing and experimenting,	**Proficient**

Dimension	Evidence	Rating
	generating ideas and abstraction. The classroom data was used to identify observations. Students responded with the patterns they saw in the data results noting that results were fairly close. The teacher asked why some numbers were 'off' and 'go off slightly' with some students making predictions that the objects were either smaller or larger. She then shared that Pi is constant at 3.14. The numbers on the data chart were compared to 3.14 and anomalies were possibly due to slight discrepancies in calculations. "What did we find out by measuring all this stuff? If we made precise measurements, what do we always get?" …3.14 = Pi. Later the teacher shared how she had been on the internet and that Pi 'goes on forever.' There was no explanation to clarify the difference between the constant (3.14) and the decimal representation of Pi that is infinite.	
Content Knowledge and Expertise	The teacher displayed accurate content knowledge of the subject. She was able to explain key concepts such as circumference, diameter, radius, and Pi in terms the students could understand. She displayed understanding of what student pre-requisite knowledge was required to master the content. Before students used the formula to find the area, the teacher explained the various terms and provided an opportunity for students to develop an understanding of Pi. The instructional strategy she used for students to discover Pi and taught the idea in sufficient depth. However, there was some question if all students were able to understand how Pi fit into the larger idea of finding the areas of a circle. The teacher taught analytical thinking where students analyzed and explained information through measurement exploration with the objects and data gathering to form conclusions about Pi. The teacher asked a student to explain how knowing the length and width of a rectangle helped to find the area. The teacher modeled monitoring her thinking and attending to critical information when solving problems. She checked her answer for 3.14 x 9 by saying, "Guess what? Three times nine is thirty-seven. Check your answer in your brain and not just on the calculator. It should be close to twenty-seven." The teacher also required students to research and explore as part of their extended learning beyond the lesson.	**Proficient**
Communication	Questions were asked throughout the lesson at a moderate frequency. Some questions were recorded on a worksheet used as a part of the activity. Questions were varied and sometimes asked purposefully building up to a higher level of thinking. After her "story of a square," the teacher asks students if they would add anything to her story. After their responses, she asks, "Do I have an area?" After the groups tell the story of a circle, "Could I fit squares into a circle?"	**Proficient**

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	What do we see in our measurement data?" The teacher uses wait time as she notes, "I see three people…four…" Most questions were directed to individual students with the exception of the printed questions referenced during activities. The lesson also provided opportunities for students to interact with a variety of objects of interest and to discuss the lesson's concepts and vocabulary with each other. Verbal and written communication was used throughout the lesson to connect prior and current learning. Students had opportunities to communicate with their peers when measuring and recording the objects. Students were asked to write their "story of a circle" using what they learned as homework.	
Differentiation	The activities engaged and supported most students and supported the instructional goals. Activities provided the opportunity for students to manipulate objects, make connections to prior knowledge, and discuss results. The activities elicited a variety of thinking and induced some curiosity. The teacher incorporated a variety of materials not included in curricular texts. The students were asked to tell the story of a circle in their existing table groups, and she asked them to have a recorder. Groups successfully measured their objects, calculated Pi, and recorded their findings on the overhead. However, the lesson did not provide differentiated instructional methods or content for students.	**Proficient**
Monitor and Adjust	While the lesson had a beginning, middle and end, the complexity of the content did not match the pace of the lesson. The teacher attempted to connect prior learning with the area of square and rectangle to calculating that of a circle. A few students responded to teacher prompting about the 'diameter' and 'radius' of the circle. It was not evident whether most students understood and followed the direct instruction segment of the lesson. Though students were divided in groups, it was not evident whether students understood the objective and there were no evident adjustments to the lesson to clarify student misunderstanding, if needed. Feedback was given regularly although sometimes answers were not affirmed. In these cases, the teacher would not	**Developing**

Dimension	Evidence	Rating
	acknowledge a response, but move on with another question. When a student added, “I have parallel lines” to the story of the square, the teacher asked, “How many sets of parallel lines?” and then explains them.	

Domain: Learning Environment

Dimension	Evidence	Rating
Classroom Environment, Routines and Procedures	Routines for distributing materials and assignments were efficient. The teacher had other materials and circular objects available for students to use in the small group activity. Students worked at their desks and no other transitions were noted during the lesson other than after the closure.	**Proficient**
Managing Student Behavior	The teacher circulates around room while students are measuring and then again while they’re answering the questions. The teacher used ongoing questioning and cues to call for student responses and keep them focused and engaged. Students raised their hands and waited for the teacher’s cues. Teacher-student and student-student behaviors were supportive and aligned with the teacher’s expectations for interactions during the lesson.	**Proficient**
Classroom Culture	All students were engaged, particularly as they measure the circular objects and collected data. The teacher used real-world objects of varying sizes to connect the objective to everyday life and make it meaningful. It was an expectation and apparent part of the culture that students work respectfully in both large and small group settings, including collaboration and teamwork when assigned group work.	**Accomplished**