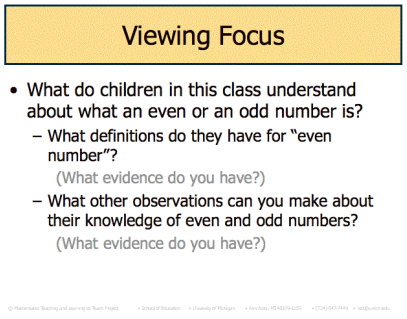
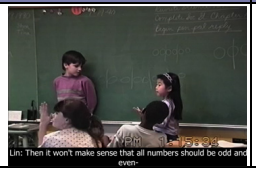
Detailed description of activity	Comments & other resources
<u>Optional preliminary activity before introducing the viewing focus:</u> If you have extra time available (approximately 15 minutes), you might want to do a prelimniary activity before lauching the viewing focus. (See the notes on the right for the rationale and suggested work.)	*This video can provoke strong reactions among viewers who sometimes find the teaching quite exciting or rather troubling. It can be helpful to allow time for general reactions to be aired so that these first impressions are given some attention. Often this preliminary activity enables viewers to then turn to the viewing focus more directly. You may want to –* • *Delay presenting the* Viewing Focus *and say that you will be showing the video through once before turning to the real focus of the work. Point out that people often have strong reactions to the teaching shown in the video and you want to provide them a little time to make general comments before returning to your work on definitions.* • *Show the video all the way through and spend a few minutes collecting comments. When you are ready to move on, you might want to mention that the teaching practice captured in the video makes the children's reasoning and ideas more visible and available for examination than might otherwise be the case. (This can be said regardless of how people feel about students' interactions and the teaching.) You can then say that the group will move on to watching for and discussing the children's ideas and reasoning.*
<u>Setting Up The Viewing focus</u> • While watching this video, try to figure out what the children understand about what an even or an odd number is. • What definitions – or implicit definitions – of "even number" do you hear? • Take notes on the transcript; be prepared to give specific references to important moments in the video that shed light on the children's ideas about even and odd numbers.  • There will be time immediately after watching the video to look over and add to these notes.	

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3. Video viewing (~10 minutes)

Detailed description of activity	Comments & other resources
Play the video straight through. 	*To aid viewing, make sure the subtitles are displayed and that video is being played at full screen. Also be sure to use speakers to amplify the sound.*

4. Reflection on video viewing (~10 minutes)

Detailed description of activity	Comments & other resources
<u>Individual reflection</u> Have teachers spend approximately 5 minutes writing notes about the children's understandings of even/odd numbers and the definitions implicit in their reasoning. Encourage them to refer to specific things said or done as much as possible. <u>Discuss in pairs</u> Have teachers spend approximately 5 minutes in pairs, sharing and discussing the things they observed and noted.	*During this time, it would useful to walk among the teachers, looking at their notes and listening in on their conversations to see who is picking up on the children's definitions and which definitions are being seen. You may want to:* • *Make notes about which teachers are picking up on which definitions (see below for the children's definitions to be discussed during the whole group discussion); you could use this information to move the whole group discussion forward later.* • *Redirect individuals and pairs to consider the <u>children's</u> definitions and understandings of even/odd if need be.* • *Watch for comments that are expressions of values, assumptions, or beliefs that are not necessarily supported by evidence (e.g., Shea is completely confused; Shea is just acting up; the teacher is not teaching). In such cases, you might try asking where in the video or transcript they see evidence that would support their description or analysis. Is there other evidence that might lead one to a different conclusion? (For example, is there evidence that Shea understands something about even and odd numbers? What?)*

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5. Whole group discussion of video (~25 minutes)

Detailed description of activity	Comments & other resources
Launch Bring the group together to discuss *the children's understandings about even and odd numbers, and the definitions implicit in their reasoning*. Refer back to the last slide entitled "Viewing Focus" to orient the discussion. Take notes that will be displayed during the discussion. If this is not something you do routinely, explain that taking these shared notes will not only provide a record of the conversation but will also allow the group to refer back to earlier comments and to elaborate and refine the ideas as the discussion progresses. Note that the children seemed to be drawing upon several different definitions of—or ways of thinking about—"even number" in the episode, and ask if someone would be willing to share one way the children seem to be thinking about even and odd numbers.	*Alternatively, you might want to call on someone who had started to articulate one of the children's definitions during the paired sharing.*
Taking comments **Grounded in evidence:** As teachers share their comments, consistently press them to identify where in the transcript or video they saw or heard whatever it was that led to their claim. This is an important form of rigor for making observations; it also lessens the risk of having personal beliefs/positions dominate the discourse. **Generating notes/making comments hearable:** Write brief notes in the public space about people's observations (or have one of the teachers help you); use the note-taking process as an opportunity to restate ideas clearly and concisely (have the person who made the comment assist with this if it is helpful to you/them). Also, record the transcript location (line numbers) that served as the basis for each comment. **Making connections:** As the notes are generated, ask teachers to look for connections or contradictions among the comments; you may want to briefly comment about interesting or helpful connections you see or press people to resolve apparent contradictions, refine their statements, etc. if it seems important.	*There is a notes template available for taking discussion notes that can be projected from a computer.* *See notes sample to see how the template can be used and the types of comments that often arise during this discussion.*

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Examining children's definitions Three significant definitions (or ways of thinking about even numbers) that the children used in the episode should surface from this discussion: • **Fair share** – a number is even if it can be made of two equal groups with none left over, using only whole numbers) (Shea) • **Pairs** – a number is even if it can be grouped in pairs, with nothing left over) (Ogechi) • **Alternating** – even and odd numbers alternate on the number line, starting with zero being even) (Tina) If one or more of these definitions does not surface, you might consider: • Calling specifically on someone you noticed had picked up on the missing definition(s) during the individual reflection time or pair discussions • Asking about the definition or understanding of *even number* that one of the specific children used (e.g., How was Tina determining whether 6 was even or odd in lines 28-33 of the transcript?) • Asking the group if there is evidence that indicates the children had another way to tell whether a number—like 1, 2, 3, 4, or 10—is even or odd?	*You could also ask about definitions of or assumptions about odd numbers.* *If the teachers seem to cover this ground with some confidence, you might ask them to consider how they might try to reconcile the definitions. For example,* • *Are the children's definitions compatible? How could you show this?* • *If the definitions are all correct, then how could you prove that the fair share and pairs definitions are equivalent – in other words, that a number is even by one definition if and only if it is even by the other?* • *Which of these would it be easiest to show is equivalent to the alternating definition?*
Transition to wrap up Summarize the three different definitions the children used and identify the one or two children most clearly aligned with each definition. Refer to the discussion notes if it seems helpful. To make a transition to the wrap up, briefly discuss the children's use of definitions. Ask: • Why are definitions showing up in the children's talk? • What use are the children making of them?	*Some sample responses:* • *Definitions are being used to identify which numbers are even and odd* • *Children don't need to turn to the teacher to resolve the conflict; definitions enable them to use mathematical reasoning* • *Children are using definitions both explicitly and implicitly to make mathematical arguments and resolve conflict* • *Using different definitions (without realizing it) makes it hard for students to understand and respond to each other's arguments*

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