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Background Knowledge: Mathematics/Time

When you begin to teach telling time children need some prior knowledge. Children have varied amounts of knowledge about time. Some children may know a lot, such as hours, minutes, seconds, etc… others may only know what a clock looks like but not what it tells you. It is important to help the children discover different types of time and how to tell it. As always you as the teacher need to know your students very well.

There are sixty minutes in an hour the minute hand goes around the clock sixty times children need to be able to count to sixty to understand this part. You can help the children discover the tick marks on the clock. Ask the students how many there are? You can help the children discover that each time the clock ticks on one of the little tick marks it is a minute. Every time that the clock ticks on a big number it is a new hour. As a teacher you need to make sure that the children understand that there are twelve numbers on the clock and the hour hand goes around the clock twenty four times a day, the minute hand goes around the clock 1,440 times a day. Children need to be able to count by fives. This will ultimately help them distinguish what time it is because they can count by fives from the start of the hour. Children need to be able to distinguish between the hour hand and the minute hand. They need to be able to recognize that one is smaller than the other and one moves more often than the other. Children will be most successful in telling time is they understand fractions. If they understand that half of a circle they ultimately will be able to make the correlation of half of an hour (60 minutes) is half of a circle (30 minutes). This will translate into one quarter of an hour, and three quarters of an hour. It is very helpful for children to visually see this being done. When working on quarters, half, and three quarters a hands on activity that requires the children to physically move the quarter of an hour, half hour and three quarters of an hour may be very helpful for some children to grasp the concept. Children are writing in digital time when they write what time it is. A group discussion of various ways to demonstrate time could aid the children through this process.

Providing students with learning experiences based on the concept of time relates to **Communications, Connections, and Representations**

**M:CCR:2:1 Students will communicate their understanding of mathematics and be able to:**

• Demonstrate mathematical communication through discussion, reading, writing, listening, and responding, individually and in groups.

• Discuss relationships between everyday language and mathematical language and symbols (e.g., words that mean something different in mathematics and in everyday life).

• Explain conclusions, thought processes, and strategies in problem-solving situations.

• Discuss, illustrate, and write about mathematical concepts and relationships.

• Draw pictures and use objects to illustrate mathematical concepts.

As a teacher you need to be constantly accessing where students are at within the developmental process. This would include understanding what kind of day they are having? Has it been a crazy day maybe they do not need a huge game activity maybe they need a calming activity that helps reinforce the concept of time etc… You need to know what concepts the children have done before for instance fractions. Do they understand the concept? You should provide the students with visuals that will reinforce that concept of time such as half an hour from 12:00-12:30 is the same amount of time 12:15-12:45.

You as the teacher need to stock your classroom full of clocks that the children can manipulate themselves, Judy Clock’s © for demonstrations, websites for activities, and games. These are all teaching tools that will help reinforce the concept of time for the children. The more they practice it the more they will understand it. When I say practice I do not mean just worksheets (they can be a form of assessment but not the only form), games that require them to practice what they had learned, class discussions, etc… will help the students.

I planned and implemented three learning experiences on the concept of time for second graders. The first learning experience consisted of me giving the children a time and them showing me the time on little clocks. This allowed me to assess whether they could show me the time that I had stated. The second learning experience I provided was a worksheet that I created. The children had to write the time below each clock and shade in the amount of time that has elapsed passed the hour. The third learning experience is a game that the children worked together in groups of three. They matched 12 hour clock, digital clock, and text to each other. The children took turns; working together to determine how three different ways of time says the same thing. Each learning experience reinforces the concept of telling time through repetition.