Next Steps and Instructional Moves

The intended purpose of this document is to provide teachers with a tool to determine student understanding and suggest instructional moves that may help guide a student forward in their learning of a concept or standard. This guide is not an exhaustive list of strategies.

Third Grade: Cluster 9
Understanding Time

NC.3.MD.1 Tell and write time to the nearest minute. Solve word problems involving addition and subtraction of time intervals within the same hour.

Not Yet

Students that are consistently scoring "Not Yet" on understanding time tasks could have a variety of errors. Many of their errors will be based on their misunderstandings of how to read a clock. When students struggle with reading a clock they are unable to build further understanding within this standard. Areas of struggle will consist of students not knowing the hands of the clock, the double meaning of numbers, understanding that the small lines between numbers are one-minute increments, as well as how the one-minute increments connect to the double meanings of numbers.

Next Steps:

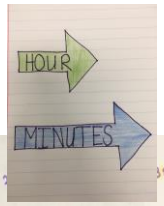
For students having trouble with knowing how to count the marks on a clock:

- Have students make a clock that has the minutes written on cards and attached every five minutes. Use the clock to solve addition and subtraction time problems.
- Have students skip count on a number line to 60 by ones and by fives. This counting routine will help them with telling time.
- Encourage students to create a 1-60 number line. Ask students to highlight or use a different color for the increments of 5 on the number line. Relate the number line to the face of a clock.

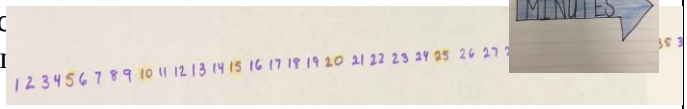
For students having difficulty using a clock to tell time:

- Provide daily opportunities to work with a clock with gears. Students can use a small Judy clock to manipulate to see how the hands on a clock move. It is important to discuss with students that at times such as 8:55 the hour hand is nearly on the 9 and not the 8.

For students with errors related to knowing the difference between the hours and minutes:



- Have students create a clock that has different colored hands and write the words "hour" and "minute" on the hands to clearly identify the difference between the two hands.
- Reinforce the minute hand is long so it c
to more easily see where it is pointing ar
points to the large numbers.



- Post analog clocks next to the classroom schedule so that students can connect time with activities that take place daily. Make sure to have different colored hands on each clock.

For students having difficulty solving math word problems related to time:

- Provide opportunities for students to solve math elapsed time math word problems using a time number line. This number line allows students to link their knowledge of number line to the concept of time thus scaffolding understanding for the student. Commercial versions of this number line can be found online. Example shown below.

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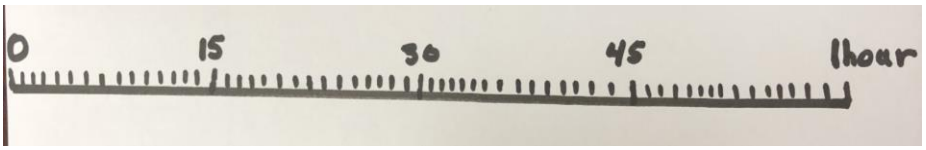
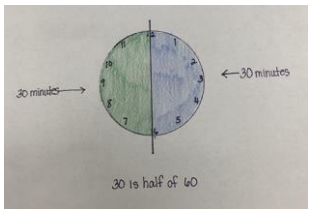


- Students should have many hands-on experiences solving time word problems using the geared clock. Students will be solving time word problems within the hour. Linking this solving of word problems to addition and subtraction word problems allows students to make connections. This standard is within the hour and not across hours.

Progressing	**Students that are consistently scoring "Progressing" can read time to the hour and five minutes; however, they may have not mastered telling time to the nearest minute. Students may also have trouble knowing larger amounts of time, such as quarter hours and half hours, as well as counting in increments. Some students may also struggle with the idea of how time changes or elapses from one activity to the next. It is important for students to also make connections between the times that activities start and end. Students can also have difficulties knowing how to apply time skills to solving word problems.**
	<u>Next Steps:</u> **For students having trouble identifying time to the minute:** ● Review counting from 1 to 60. ● Practice counting by ones when starting at a group of 5's (i.e. 25, 26, 27). Be sure to connect the counting to a number line and a clock to show how time connects to simple counting. ● Point to a minute tick on the clock between two numbers and aks what two numbers is it between so students get in the habit of using their number sense when determining time to the minute. ● Have students make clocks and clearly identify the minute hand using a different color or writing minute on the clock hand. **For students with errors related to larger increments of time (quarter hours and half hours):** ● Have students create a visual image of time such as the one shown here. By color coding in 30-minute increments, students can see the relationship of 30 minutes to half of an hour. This is a great connection to Cluster 7. ● Students may need to see a clock divided into fourths and connect it to Cluster 7 with quarters. 

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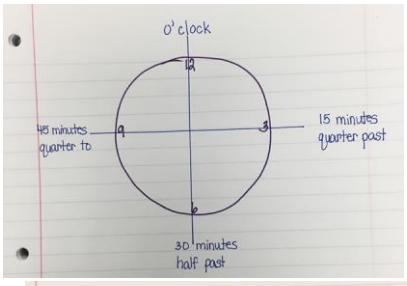
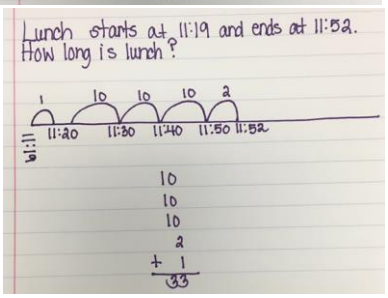
Progressing (continued)

- Use a clock and draw lines to show the quarters of clock, making a connection to four parts in wholes, 4 quarters in a dollar--when students see a connection with four parts they are likely to see that there are also four parts to the hour.

For students struggling to find the elapsed time from the beginning of an activity to the end of the activity:

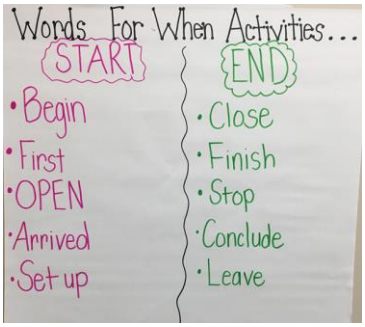
- Use an open number line to connect to addition. Be sure to keep the activities within an hour. This is the expectation of the NCSCOS standard for 3rd grade.
- Use a Judy clock to move the time from when it starts to when it ends so that the students can see the actual change in the time

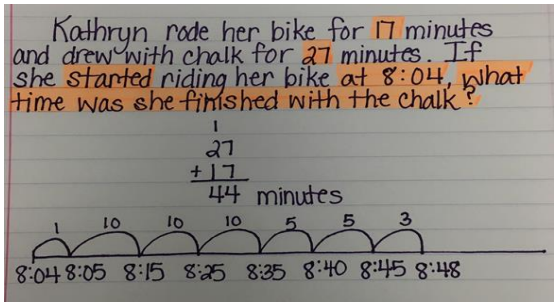




For students who have difficulties identifying if they are looking for the start time or end time:

- Create a list of words that would mean to start and a list of words that mean to end activities. Ask students to create word problems using these words. This gives real world context to the elapsed time concept.
- Work with students to identify and highlight important information within the problem to determine the critical information.





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Meets Expectation	**Students that are consistently scoring "Meets Expectation" can accurately read an analog clock to the nearest minute, five minutes, quarter hour, half hour, and hour. These students are also able to identify start and end times, as well as use different strategies to find the elapsed time. It is important to note that students who are consistently meeting expectations with time are finding the elapsed time within the hour. This means that when students are given a problem, it is to start within the 4:00 hour and end within the 4:00 hour (i.e. 4:00-4:59).**
	Next Steps: ● Read aloud, Pigs on a Blanket by Amy Axelrod. Create a variety of elapsed time word problems based on the pigs' adventures of going to the beach. Be sure to keep the elapsed time within the hour. Students will enjoy the story and the application of time word problems. ● Extend student thinking to prepare for fourth grade by allowing students to explore crossing the hour to find the elapsed time. Example: How long is it from 5:45 p.m. until 7:15 p.m.? They should be given clocks and/or number lines to use for these tasks. When the students explore crossing the hour they should be able to work with other students who are also at the meets expectations level. While working the students will be able to have meaningful discourse and math talk to determine how they should solve their problems. This extension and exploration helps lay the foundation for standard NC.4.MD.8.