



***Mathematics**

What Time is It?

There are many different story versions telling how *Rudolph the Red-Nosed Reindeer* helped Santa deliver toys to all deserving girls and boys on Christmas Eve. But how did Santa do this? How much time did his delivery and journey take? Unfortunately, the tale does not tell us. But perhaps students can!

Kentucky Mathematics Arts

Measurement (2.8, 2.10, 2.12) Grades K-3

Academic Expectations:

2.8 Students understand various mathematical procedures and use them appropriately and accurately.

2.10 Students understand measurement concepts and use measurements appropriately and accurately.

2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

Ohio Mathematics Standards: Measurement

Time

Benchmarks Grades K-2

A. Explain the need for standard units of measure.

B. Select appropriate units for ...**time**, using U.S. customary units: minute, hour, day, week and year.

C. Develop common referents for units of measure for ...**time** to make comparisons and estimates.

Grade 3

A. Select appropriate units for...**time** and temperature.

C. Develop common referents for units of measure for ...**time** to make comparisons and estimates.

E. Tell time to the nearest minute.

Objective

Students will:

- Use analog clocks to tell time.
- Use specific amounts of time--15 min, 30 min, 45 min, 60 min, 1 hour, 2 hours, etc.--to correctly position the hour and the minute hands to demonstrate changes in time.

Assessment

Student will be able to:

- Tell time observing the minute and the hour hands on an analog clock.
- Position the minute and hour hands on a clock to reflect a new time when given specific number of minutes and/or hours.

Sample selected response items to gauge student understanding:

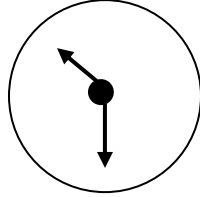
1. What is time?

Answer: The hour or minute of the day; past present and future.

2. Complete this sentence. If it was two hours and forty-five minutes after 3:00 the time would be _____.

Answer: 5:45

3. What is the time on the clock below?



Answer: 10:30

Vocabulary

- Hour
- Minute

Materials

- Class set of clocks that allow students easy manipulation of the minute and hour hands to show time. (It may be easiest to make simple clocks out of construction paper or tag board and paper fasteners.)
- Mathematics Handout: Clock

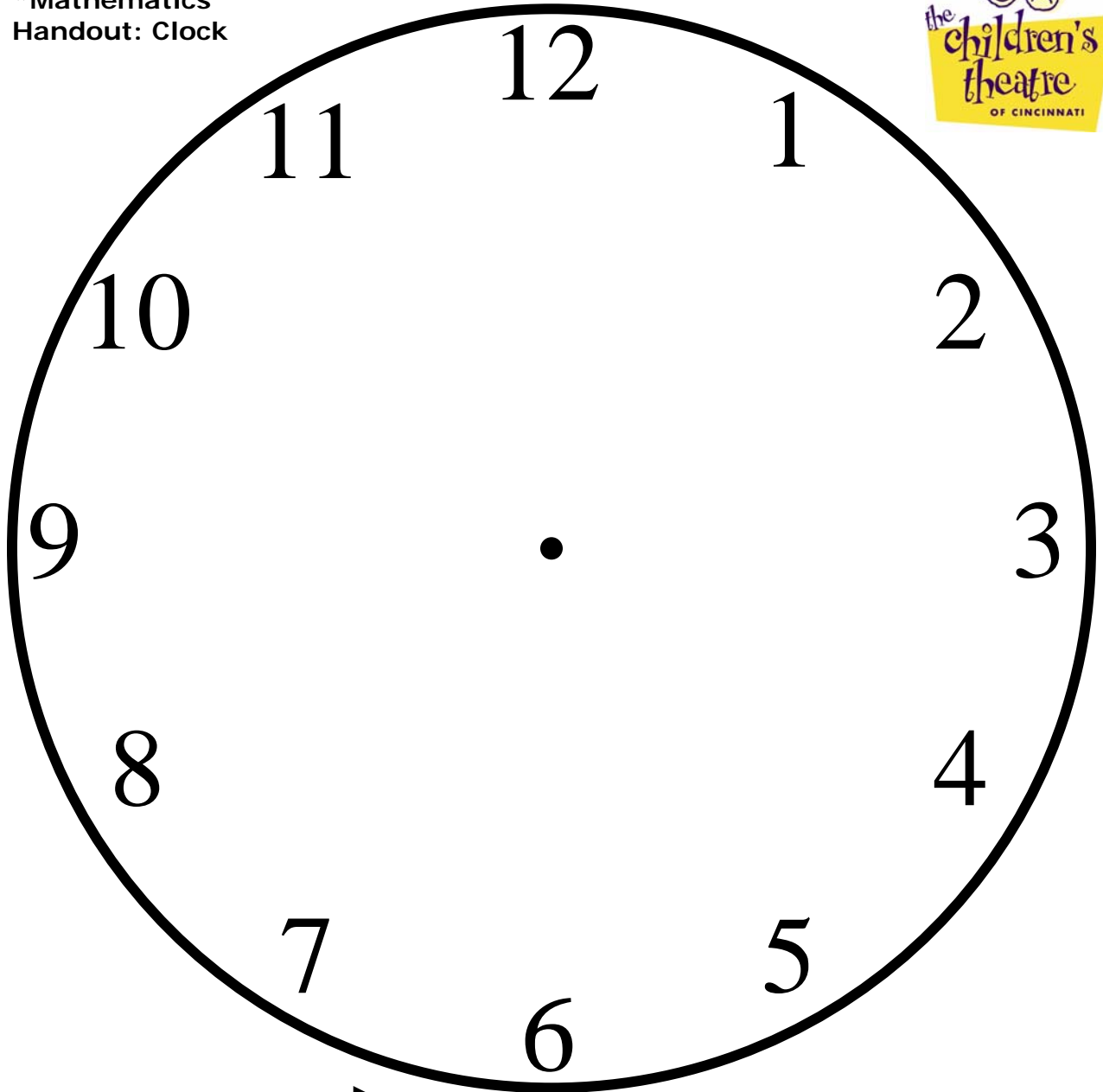
Activity

Santa's Journey

Teacher will:

1. Introduce an analog clock (ticking loudly if possible).
2. Ask students what the sound of ticking indicates. (*Movement of time.*)
3. Facilitate student discussion to address the presence and passing of time in the production of *Rudolph, the Red-Nosed Reindeer*, and the importance of time in the story's activities.
4. Distribute a clock to each student or pair of students for hands-on manipulation for problem-solving.
5. Have students demonstrate the position for the hands of a clock to illustrate specific times (e.g., 10:00, 9:45, and 3:15).
6. Have students set their clocks to a specific time. Next have students change their clock to match a new, allotted amount of time. (e.g., Students set their clocks to 11:00. Then illustrate the new time by adding on thirty minutes.)
7. Share brief stories with students that have a timed sequence of events, and have students adjust their clocks accordingly. (e.g., Santa woke up at 8:00 in the morning. Students will indicate the time 8:00 on their clocks. It took Santa thirty minutes to eat his breakfast. After another thirty minutes, Santa made it to his sleigh to prepare for his trip. Students will adjust their clocks accordingly to reflect the new

*Mathematics
Handout: Clock





*** Mathematics**
Handout: Clock (cont.)

Directions:

1. Cut out face of the clock, and the hour and minute hands.
2. Line up the white circles at the end of each hand with the black circle on the face of the clock.
3. Use a paper fastener to attach the hands to the face of the clock.

Sample short stories for adjusting time on a clock:

1. Santa left his workshop at 12:00 to go eat lunch. Lunch was finished thirty minutes later. Since Santa needed his rest, he took a nap. Forty-five minutes after having finished lunch Santa awoke from his nap. He returned to his workshop and began working fifteen minutes later. (answer: 1:30)
2. Santa noticed fog at 6:45. One hour later, Santa noticed the fog was very thick. Sixty minutes after that, Santa was wondering if he was going to finish his job tonight. (answer: 8:45)
3. Rudolph went to bed at 8:00. Fifteen minutes later, he fell asleep. Fifteen minutes later, Rudolph began dreaming about what Santa was going to bring him. Two hours later, Rudolph awoke to go help Santa. Fifteen minutes after waking up, Rudolph was flying with Santa's sleigh. (answer: 10:45)