

GOLF TEE MINUTES CLOCK

PREREQUISITE:

Hundred Chain - able to count by ones to sixty
Parts of a clock - 3 part cards

Direct Aim:

Concept of telling time by minutes *after* the hour, and minutes *before* the hour.

Indirect Aim:

Preparation for further study in history.

PRESENTATION SUMMARY:

Introduction to Parts of the Clock:

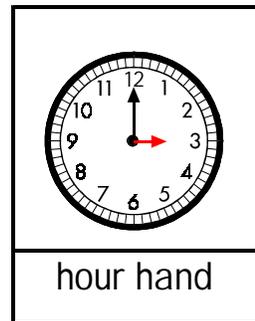
First introduce the child to the nomenclature of the parts of the clock with 3-part cards highlighting in red: the clock, the clock face, minute hand, hour hand, minutes, and hours. The introduction of the second hand and seconds is optional at this time. Child matches the pictures and labels to the one-piece control cards. Later child can self-quiz and lay the picture cards first, then laying and matching the label cards to the pictures, and finally using the one-piece control cards to self-check.

Using the three period lesson with a small wall clock repeat the names of the parts of the clock saying this is: (name the part of the clock). The second period is where you ask the child for a physical response saying: "show me, or point to" (name part of the clock). After the child has practiced, point to a part of the clock and then ask the child for a 3rd period verbal response saying: "what is this?"

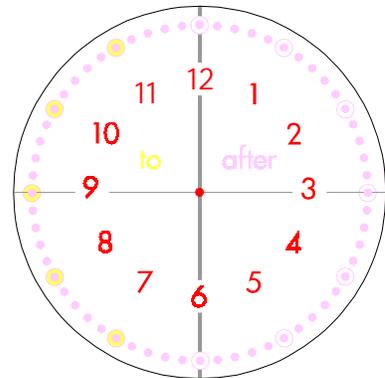
Additional vocabulary:

short hand (hour hand)
long hand (minute hand)

Parts of the Clock 3 Part Cards



Golf Tee Minutes Clock



MATERIALS:

- Parts of a Clock
3 part laminated cards - one set with picture and label together and one set with picture and label cut apart.
- Minutes Clock
A 12 x 12 " laminated clock face mounted on Styrofoam with a plywood base. Holes are punched in the board at each of the 60 minute slots on the clock. Removable laminated minute and hour hands with foam backing revolve around the clock with a golf tee center.
- Tee Storage Board
A 12 x 6" laminated grid mounted on Styrofoam with a plywood base. Designed for orderly storage of golf tees.

GOLF TEE MINUTES CLOCK (continued)

Exercise 1:

Introduce the Golf Tee Minutes Clock saying: This is a special material to help us learn about time. This material is called: Golf Tee Minutes Clock. Can you say that?

First present the concept of Hours - using the golf tee minutes clock without the clock hands inserted, saying: "Look at the red numbers on this clock. How many numbers are there? There are 12 red numbers on this clock. These numbers are the hours on the clock - let's say the numbers together (counting 1-12). Then place *only* the red hour hand in the clock and say this is the hour hand. Count the numbers 1-12 again, pointing the red hour hand to each number as you go around the clock.

Exercise 2:

Explore concept of minutes with the clock saying: "Look at all these pink dots. Let's count them" (counting 1-60). "There are sixty pink dots on this clock and there are sixty minutes in one hour."

Present the concept of *minutes after* with the pink tees numbered 1-59. Starting with the 1 minute pink dot, remove the "1" tee from the tee storage board and place the "1" tee in the minutes clock saying, "1 minute after." Continue in the same manner around the entire clock saying: "2 minutes after, 3 minutes after" and so on. When you get to the o'clock tee say: "there are 60 minutes on this clock but when we get to 60 minutes it is a new hour so we say o'clock," placing the o'clock tee.

Exercise 3:

Present the digital time pink golf tees numbered "01 - 09," explaining: "Not all clocks have long and short hands to tell time. Sometimes clocks have only numbers, with no clock face and no hands. These clocks are called digital clocks. Can you find a digital clock in this room?" "Let's count now with digital time," counting and replacing the "1" to "9" tees with the "01" to "09" tees.

Exercise 4:

Start by saying, "the pink tees count the minutes after the hour. Sometimes we count by the minutes after and the minutes to the hour. Watch me." Place the pink minutes after tees 1-30 as before saying: "1 minute after, 2 minutes after" and so on. When you get to the pink "30" tee then place next the yellow 29 tee, saying: "29 minutes to, 28 minutes to"... and so on to the yellow o'clock tee.

Exercise 5:

Present the concept of minutes with the long black minutes hand after the child has had some practice with the golf tees. As you did with the red hour hand, place only the black minutes hand on the clock saying, "let's count the minutes now with the minutes hand, pointing to the pink dots one at a time with the minutes hand and counting from 1-59 and then o'clock. Repeat the exercise with the minutes after and the minutes to.

Extension:

Rubber stamps with blank clock face.
Clock face worksheets.

Additional vocabulary:

Analog clock (clock face with hands)
Digital clock (no clock face or hands, only numbers)

BLUE FIVE MINUTES BARS & DISCS

Exercise 1:

Place the light blue five bead bars on the Minutes clock - if the bead bars have 10mm beads they should fit on sets of five empty holes around the clock face of the golf tee clock, saying "there are five minutes between each red number on this clock.." After bead bars are placed, point to each one saying, "Let's count the minutes by fives: 5, 10, 15.." and so on.

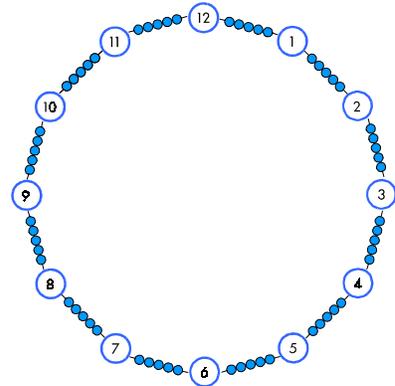
Exercise 2:

Place blue hour discs and five bead bars in a circle as on a clock face. Again count the fives between the number discs. Now explain: "sometimes the numbers on a clock face are not Arabic numerals like these (count again the number discs 1-12.) Saying "Now, watch me." Replace each of the numeral discs 1-12 with the appropriate Roman numeral discs. Explain: "these are Roman numerals, let's count with them," counting 1-12 around the bead bar circle.

Exercise 3:

Demonstrate how to round off to the nearest five minutes. If using the Blue Five Bead Bars and Blue Numeral Discs use a wooden skewer half the diameter of the clock to represent the minute hand. Point the skewer minute hand to various beads around the clock and have the child estimate the nearest five minutes, e.g. if the skewer hand is pointing to the 2nd bead on the light blue bead bar after the blue number 3 hour disc (which is 17 minutes after) then the five minute estimation would be 15 minutes after.

Blue Five Minute Beads and Hour Discs



MATERIALS:

- Five Minute Bead Bars & Numeral Discs
12 sets of light blue five bead bars and 12 blue hour plastic discs with Arabic numerals and 12 blue plastic discs with Roman numerals.

PREREQUISITE:

Five Square Chain - skip counting by fives

Direct Aim:

Concept of telling time by fives.

Estimation of time to nearest five minutes.



MINUTES
CLOCK



TEE STORAGE BOARD

QUARTER HOUR DISCS

PREREQUISITE:

Fraction Circles

Direct Aim:

Concept of time as a fraction of an hour.

PRESENTATION SUMMARY:

Exercise 1:

Introduce the concept of fractional time by cutting two circles the size of the face of the Golf Tee Minutes Clock. The first circle will be cut in halves and the second circle cut into fourths. Explain: "sometimes we measure time by the fraction of an hour." Show the halves saying: "An hour can be split into 2 parts - each part is called half an hour." For example if it is 2:30 on the clock we might say it is "half past 2." The clock can also be cut into a fraction with four parts or fourths. We might say it is a "quarter past" or "quarter to the hour."

Exercise 2:

Using the green set of digital time discs as the control first lay the *o'clock* discs in a horizontal row in order from 1:00 to 12:00. Under the digital time match the yellow set of analog time discs. Each analog and written time disc should have the digital time written on the back of the disc for self checking. Next introduce the *thirty discs* and lastly the *15 minute* and *45 minute* discs.

Quarter Hour Discs



MATERIALS:

- Quarter hour discs
A substitute for 3-part cards with clock times. Color coded plastic discs with laminated clock faces. 3 sets of clocks, green set for digital time, yellow set for analog time and orange set for written time.

Additional vocabulary:

Quarter past
Quarter after
Half past
Quarter to
Quarter of



Store Quarter Hour Time Discs, Numeral Discs and blue five-bead bars in Plano 3600 tackle box.

Geared Clock and Minutes Task Cards

PREREQUISITE:

Golf Tee Minutes Clock
Quarter Hour Discs
Blue Five Minutes Bead Bars and Discs

Direct Aim:

Synthesis of clock lessons.

Exercise 1 - Quarter Hour Time:

Bring a synthesis to the quarter hour clock lessons with a geared clock. First moving the minute hand around to o'clock positions, saying 1 o'clock, 2 o'clock and so on to 12 o'clock. Do the same with the half hours and quarter hours.

Exercise 2 - Minutes Time:

Allow the child to work to mastery with random times using digital Time Task Cards. You may wish to start with a limited number of cards, but eventually - the entire set of task cards with digital time for every minute and hour on the clock - can be placed in a fishbowl and times randomly pulled out so the child can mark the time on the Golf Tee Minutes Clock or on the Geared Clock.

Extension- AM/PM Time:

Cut two narrow strips of paper to fit around the clock face of the Golf Tee Minutes Clock. Fit the strip around the outside of the inserted minutes golf tees. Mark each hour on each strip of paper marking one with a.m. after each hour and one strip with p.m. after each hour. Tape the two strips together to illustrate a 24 hour day. Strips may be used to create a personal time line of what the child does at certain times of the day.

Geared Clock
Small 4" clock will do.



Time Task Cards

1:00	1:11	1:22	1:33
1:01	1:12	1:23	1:34
1:02	1:13	1:24	1:35
1:03	1:14	1:25	1:36
1:04	1:15	1:26	1:37
1:05	1:16	1:27	1:38
1:06	1:17	1:28	1:39
1:07	1:18	1:29	1:40
1:08	1:19	1:30	1:41
1:09	1:20	1:31	1:42
1:10	1:21	1:32	1:43

MATERIALS:

- Geared Clock
A geared wall clock or educational learning clock.
- Time Task Cards
Task cards with all the digital times for every minute and hour on the clock.

Additional Vocabulary:

- a.m. - ante meridiem
(from Latin - before noon)
- p.m. - post meridiem
(from Latin - after noon)
- military time
has no a.m. or p.m. - consists of a 24 hour clock which starts with 1:00 at 1 a.m. and continues to 24:00 (or 0:00) at midnight.