Pace clocks

The pace clock is fundamental to any workout.

Like any other skill, mastering the pace clock takes practice. If you understand the basics, you'll learn how to survive a workout. Pace clocks are normally positioned at the end(s) of the pool and are normally synchronized. If you are unable to see the clocks due to poor vision, use a digital wristwatch, making sure your timing apparatus is synchronized with the group's pace clocks.

Why is reading the pace clock so important for swimmers?

First, practice times are an exact measurement of our performance. You may try to swim faster, but the actual results of your efforts are unknown until you read the clock. It is possible-even common-that swimmers who try harder actually lose efficiency and swim slower.
Another benefit derived from noting times is the ability to set clearly defined goals. For example, a swimmer may wish to complete 5 x 100 on 2:00 with descending times through the set. If the swimmer completes the first 100 in 1:40, then he automatically has a goal for the second 100m to be 1:39 or better.
Setting sights on the clock also allows a swimmer to maintain accurate intervals. If a swimmer wishes to complete a set of 10 x 50 on an interval of 1:00, he must read the clock and leave on the "0" (or "60") at the start of each repeat. Without eyeing the clock, the swimmer will have no idea when to leave.
Finally, it is important to agree on the interval between swimmers when circle swimming. Depending on the number of swimmers in the lane, this tends to be either 5 or 10 seconds. Make sure you leave at the correct time. Not only will this help in timing your swim, it will also help ensure swimmers are not on top of one another and is considered good swimming etiquette.
The only exception to this is when the coach nominates a set as a specific drafting set. Under these circumstances, push off right behind the swimmer in front of you and try to stay a few inches behind his feet WITHOUT actually touching them.

Understanding traditional clock based sets:

Straight set: 10 x 50m on 1:10, swimmers should interpret the set as:
10 = number of repetitions (repeats)
50 meters = distance of each repetition
1:10 = interval for each repetition (swim + rest).

Fixed rest:
For example, Rest Interval = 20 seconds after each repetition regardless of time taken to swim repetition.

How to read the clock

“the top” refers to the 60 on the clock, or :00 on the digital display.
“the bottom” refers to the 30 on the clock, or :30 on the display.

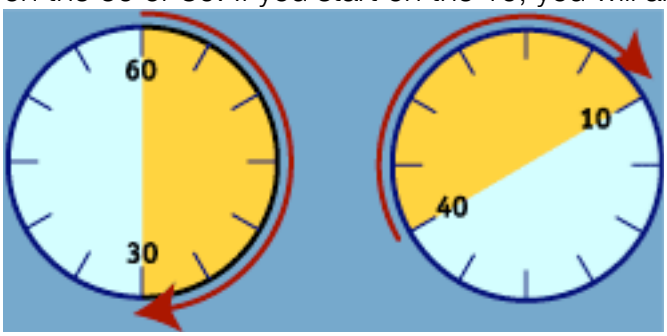
By thinking of the clock face as a pie that has been cut it becomes easier to visualize segments and keep track of your swims and send-off times. Listed on this page are some basic intervals along with an explanation of how to figure your next repeat.

60 seconds:

Intervals or pace that are exactly one minute (or two minutes or three minutes, etc.) are easy. Whatever number you leave on in the first repeat, it will be the same number for all repeats in the set.
For example, 6 x 100m on 2 mins. If you push off on the 60 on the first repetition, you will push off on the 60 on the 2^{nd}, 3^{rd}, 4^{th}, 5^{th} and 6^{th} rep. Likewise if you push of on the 45, you will also do so on the other reps.
Same with the digital display, if you pushed off on :20 for the first repeat, all other reps will start on the :20.

30 seconds:

When using intervals or pace that are involve 30 seconds (or 1:30, 2:30, etc.) you will always leave on one of two numbers. Those numbers will be directly across from one another on the pace clock.
For example 6 x 100, on 1:30. If you set off on the 60, then you will reps will alternate to start on the 60 or 30. If you start on the 10, you will alternatively on the 10 and the 40.

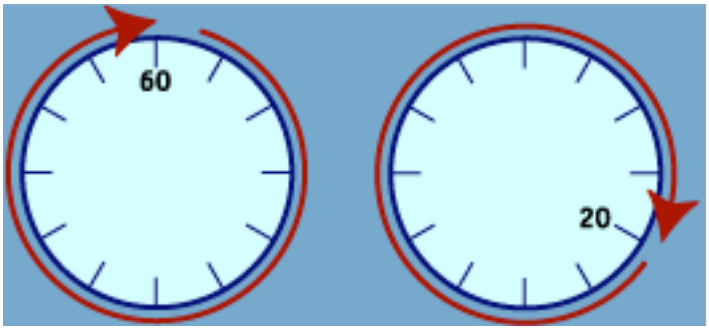


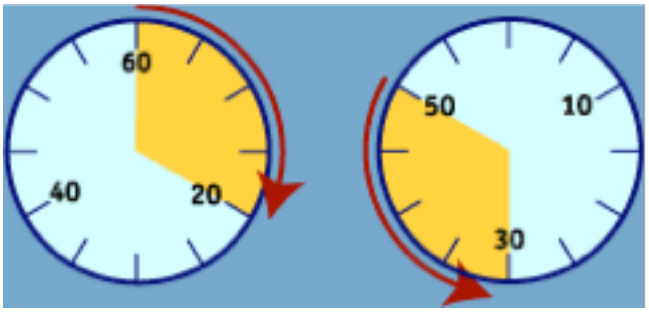
For a digital clock, remember when you set off for the first repeat and then add 30sec to the clock face as this is when you will start next. Then alternate between the 2 numbers.

20 or 40 seconds

Intervals of either 20 or 40 seconds slice the pie (pace clock) into thirds. This means you will always leave on one of three numbers. If your interval is 20 seconds (or 1:20, 2:20, etc.) your numbers will rotate clockwise. If your interval is 40 seconds (or 1:40, 2:40, etc.) your numbers will rotate counterclockwise.
For example 6 x 100m on 2:20, you will rotate 20 seconds clockwise.
If you start on 60, you will rotate push-off times on 60, 20, 40, 60...
If you start on the 10, push off times will consequently be every 10, 30, 50, 10....

For a digital clock, remember when you set off for the first repeat and then add 20sec to the clock face as this is when you will start next. Eventually your will alternate between 3 numbers, such as 5, 25, 45 or 30, 50, 10 etc.

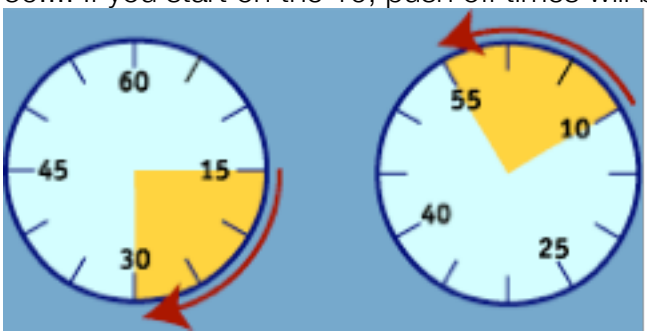




For 6 x 100m on 1:40, you will rotate 20 seconds counter-clockwise.
If you start on the 60, you will rotate push-off times on 60, 40, 20, 60...
If you start on the 10, push off times will consequently be every 10, 50, 30, 10....
For a digital clock, remember when you set off for the first repeat and then subtract 20sec on the clock face as this is when you will start next. Eventually your will alternate between 3 numbers, such as 5, 45, 25 or 30, 10, 50 etc.

15 or 45 seconds

Intervals of either 15 or 45 seconds will split the clock into quarters. Intervals ending in 15 seconds (1:15, 2:15, etc.) will have send-off numbers rotating 15 seconds clockwise. Send-off times in 45 second intervals (:45, 1:45, etc.) will have send-off numbers that rotate 15 seconds counter clockwise. In both cases, send-off numbers will alternate ending in 5 and 0. For example 6 x 100m n 2:15. If you start on the 60, push off times will be 60, 15, 30, 45, 60.... If you start on the 10, push off times will be 10, 25, 40, 55, 10....



On the digital clock, just add 15 seconds for the coming 3 repeats then alternate between these accordingly.
For 6 x 100m on 1:45, if you start on the 60, push off times become 60, 45, 30, 15, 60... If you start on the 10, push off times become 10, 55, 40, 25, 10...
On the digital clock, just subtract 15 seconds for the coming 3 repeats then alternate between these accordingly.

10 or 50 seconds

Intervals of 10 seconds (1:10, 2:10, 3:10, etc.) and 50 seconds (:50, 1:50, 2:50, etc.) are easy. For 10 second intervals your next send-off always advance 10 seconds in a clockwise rotation.

For Send-offs of 50 second intervals (50,1:50, 2:50 etc. always subtract 10 seconds in a counterclockwise rotation.

5 or 55 seconds:

Intervals of 5 seconds (1:05, 2:05, etc.) and 55 seconds (:55, 1:55, 2:55, etc.) will always add or subtract 5 seconds respectively between repeats.

Using the clock to keep count

Pace clocks normally come with a 2 hands: a "second" hand and a "minute" hand.
Similarly on a digital clock, you have the minutes:seconds

Use the second hand to aid your counting:

For example if working on a 10 second increment (1:10, 2:10, 3:10, etc.), it is obvious that it will take 6 repetitions before you set off at the same starting point. Likewise, if you are working on a 15 second, you will manage 4 repetitions before starting on the original push off time again. Using this method, it is easy to calculate how many repetitions you have done.

For example 12 x 50m on 1:10, if your initial push off time is the bottom (30), then the following push off times will be on the 40 (2nd rep), 50 (3rd rep), 60 (4th rep), 10 (5th rep), 20 (6th rep). Then repeat with the 7th repetition starting on the 30 again. Hence if pushing off on the 50, it is possible to deduce that this is the 3rd or 9th repetition.

If the set were 12 x 100 on 1:30, the set will take 18 mins to complete. You will also know whether it is a odd or even number of repetition depending on when you set off. For example if you start your first repetition on the 15, then every subsequent time you push off on the 15, you will have completed 2 reps, whereas every time you push off on the 45, you have completed an odd number of reps.

Use the minute hand to aid your counting.

If the set is 8 x 100m on 1:30, we know that this set will take 12 minutes to complete. Check the position of the minute hand before you start the set and know when you should reach the end of the set. This method is very useful if you are doing a large number or repeats on a 60 cycle or 30 cycle.
For example if the set were 20 x 50m on 1:00 (60 seconds), your send-off time will be the same on each repeat and using the second hand will not aid your counting. Hence use the minute hand instead to guide you as to when 20 mins has passed and that will be the set completed.