

This document is especially important for those who have to resubmit their model. If your model is accepted, you can still use this document to check whether your model time increments in a trial match the times displayed in this document, but you do not need to resubmit your model.

In general, being precise with replicating the trial process is important, as fairly replicating the experiment means time should pass the same way in your model. Regarding the experimental loops, exactly matching the experiment is less important, as long as the number of trials your model performs is approximately equal to the experiment.

Experimental loops:

Loop over two conditional blocks (in randomized order):

 Initialize an ACT-R model

 Loop over 3 to 6 sessions (of +- 500 trials each):

 Loop over 5 or 6 runs of 84-96 trials, which leads to +- 500 trials:

 Loop over the 84-96 trials within a run:

S = Sample time according to experiment and condition¹

P = Perform a trial on S

 Store P if session is a test session

 Increment model time (short break between runs)

The structure is not necessarily exactly the same as above, it's also perfectly fine to loop over a definite number of trials each session (E.G 2000 trials of which the first half are always training and the second half are testing trials) and taking a break (i.e. incrementing model time) every time 84-96 trials passed.

Trial structure:

1. Initial delay before click (participant chooses when the trial begins) -> educated guess on incrementing model time
2. Increment model time with sample time
3. Determine number of pulses, create and store chunk
4. Participants wait for at least 250 ms before reproducing
5. Retrieve chunk and convert pulses to time (according to design choices retrieving the chunk can also happen after/during the 250ms delay).
6. Increment model time with produced time
7. Increment model time with 450-850 ms (wait between button release and feedback)
8. Increment model time with 62 ms (feedback displayed)
9. Increment model time with 500-750 ms (fixation cross)
10. Increment model time with 500-750 ms (black screen)
11. Return produced time

Make sure the time increments are included in the model (and be wary that model time uses seconds, so convert ms to seconds when adding to the model time). Whenever the paper is not clear about exact times, you can take an educated guess and make a comment about it.

¹ Short: [450,525,600,675,750,825], Long: [750,825,900, 975,1050,1125], Medium: [600, 675, 750, 825, 900, 975] and Medium Peaked: [600, 675, 675, 675, 675, 675, 675, 750, 825, 900, 975] (or any other way to sample 675 ms with a 7/12 probability)