

HOW TO ADMINISTER THE CLOCK-IN-THE-BOX

The Clock-in-the-Box diagnostic has two parts to it. First, there is a page of brief instructions that the test taker is asked to commit to memory. Then, when they are ready, they are given a response sheet, on which they try to follow the instructions to the best of their ability.

Before handing the individual the instruction sheet and response form say the following:

"I am giving you two papers. The top page will have written instructions. I want you to read the instructions carefully, because I am going to ask you to do what it says. After you have read and understand the instructions, I will take the top paper away and ask you to complete the task on the second paper. Do you have any questions?"

Hand the two sheets to the individual, with the instructions on top and the colored boxes on the bottom. If the participant is unable to read the instructions, either because he/she cannot read or because they have visual problems, it is permissible to read the instructions aloud. Be certain to read them clearly and ask the participant if he/she understands the directions. If the participant is uncertain of the directions they may be read aloud one more time (note on the response sheet that the instructions were read aloud by the examiner). Be sure that the blue box is in the bottom right corner when the individual is looking at the page. If the participant reports that he/she is colorblind ask him/her to make a guess to the location (note color blindness on the response sheet). Do not repeat any of the instructions, except as described above.

The instructions given to the test taker are as follows:

Please read and do the following carefully:

In the blue box on the next page:

Draw a picture of a clock

Put in all the numbers

Set the time to ten after eleven.

Hand this sheet back and go to the next page

HOW TO SCORE THE CLOCK-IN-THE-BOX

The score of the Clock-in-the-Box diagnostic is based on a rubric of eight individual categories which are broken into two main subcategories. The sum of the Location, Object, Numbers and Time scores yields the Working Memory subtotal, while the Size, Number Order, Number Spacing and Hand Length & Origin yields the Planning/Organization subtotal. Each of the eight subcategories is graded with either a 0 or 1, based on the following criteria:

WORKING MEMORY CRITERIA

Location

- Drawing is completed in correct (blue) square
- Only in blue square
- If drawn in multiple boxes, no credit is given
- If drawn across multiple boxes, no credit is given
- If blue box itself is used as the clock's outline, credit is given

Object

- Drawing resembles a clock
- Any type of clock is acceptable (e.g. grandfather, digital, etc)

Numbers

- Drawing includes all numbers
- 1-12 in any order is given credit
- Numbers any location (e.g. written in a line) is given credit
- Roman numerals are given credit
- If numbers other than 1-12 are present, no credit is given

Time

- Correct time is indicated in any manner
- Credit is given if time is written (e.g. "ten past eleven")
- Credit is given if the 11 and 2 are circled (or otherwise highlighted)
- If the participant did not receive credit for the Numbers feature above due to addition of extra numbers, but the time is correctly indicated, full credit is given

PLANNING & ORGANIZATION CRITERIA

Size

- Drawing of clock is appropriate size
- Small enough to fit in the blue square
- Should not intersect other squares
- Large enough to accommodate numbers 1-12
- If blue box itself is used as the clock's outline, no credit is given

Number Order

- Numbers are in correct order
- Numbers may be written in any format (e.g. in a line)

Number Spacing

- Numbers are evenly spaced and drawn within the clock's outline
- If clock is scored as appropriate size (first feature of planning/organization sub score), no credit is given if numbers intersect the perimeter of the clock
- Opposing anchor number of 3 & 9 and 12 & 6 should be relatively well-aligned
- If anchor numbers are well-aligned, the remaining numbers should be relatively well placed.
- If two or more quadrants have poor spacing, no credit is given

[See Detailed Scoring below](#)

Hand Length & Origin

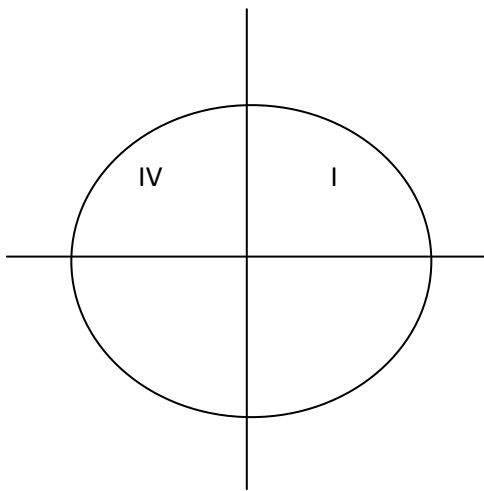
- Hands should originate at the center of the clock and hands should be of different length
- Hour hand must be 80% or less the length of the minute hand
- Origin of hands must be within 50% of center

[See Detailed Scoring below](#)

DETAILED SCORING INFORMATION FOR NUMBER SPACING

Specifics regarding the rule of three digits per quadrant:

- If two lines are drawn to intersect at center of the clock, each quadrant should include three digits (see circle with intersecting lines & details below*).
- Each quadrant can include one of the anchor numbers and two of the filler numbers. For example, quadrant I may include the anchor 12, and fillers 1 and 2, but should not also include the anchor 3. Alternatively, if the anchor number 12 is located within quadrant IV, quadrant I may include 1, 2 and the anchor 3. This rule should be applied to all four quadrants.
- If two or more quadrants have poor spacing, using this rule no credit is given.



DETAILED SCORING INFORMATION FOR HAND LENGTH & ORIGIN

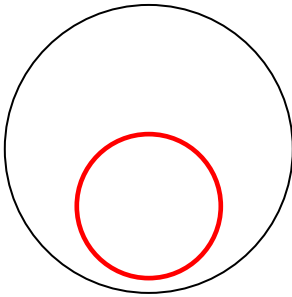
Specifics regarding the rule of hand length and hand origin:

- Diameter of circle is measured and radius (half the width of the circle) is determined.
- If a circle were placed in the center of the clock with a diameter that was equal to the radius of the drawn clock, the origin of the hands should be located within that smaller circle.
- The same rule can be applied to clocks that are square or rectangular in shape.

The black circle drawn below is roughly 1.5" in diameter or length.

The radius, therefore, is .75 inches

If a circle with a diameter of .75 inches (the red circle), was placed at the center of the drawn circle this would provide the 50% guide. The origin of the hands should fall within the red circle.



FREQUENTLY ASKED CIB QUESTIONS

1. **Hand length & Origin:** Would you give credit for hand length & origin if the hands touch the number itself?

Yes

2. **Size:** Define 'intersect' in terms of the clock circle intersecting other squares. If the clock touches the box perimeter would it be a 0, or must it actually extend past the perimeter into the next square?

The intersecting pen stroke must cross into the line of the box (recall that use of the box as the clock body is not allowed under "clock size"). If it simply touches the box, but does not intersect then a point should be given.

3. **Size:** Would credit be given for size if all numbers fit and are evenly spaced, but are touching each other?

It would get a 0. Whoever drew the clock didn't plan well enough, no credit is given.

4. **Number Spacing:** Define 'poor' in terms of poor spacing. Can credit be given for spacing if not all of the numbers are present?

If there are no items in the clock to score for spacing, spacing should be scored a 0.

If there are anchor numbers with tick marks (indicating minute intervals or 5 –minute intervals) a 1 would be given.

If only anchor numbers are present (12, 3, 6, 9) this should be scored as 0.

For further detail, use the specific scoring criteria developed for spacing and hand-length.

5. **Object:** What components of the clock need to be present to 'resemble a clock'? Hands, circle, etc.?

Any object which looks like a clock will be permissible to receive credit in this section, i.e. digital, grandfather, alarm, any sort of time keeper.

When scoring, think this: If you showed someone the drawing, who didn't know what it was supposed to be, would they guess it was a clock (of any sort)?

6. **Number Spacing:** What is 'relatively well-aligned' in terms of the anchor numbers? Is any slant allowed?

If anchor numbers begin to look like an "X" rather than a "+", it would be a 0.

7. **Number Order:** Do numbers have to be included in order for them to be considered 'in the right order'?

Yes.

8. When a participant corrects or crosses items out how should this affect scoring? Should the participant be required to draw the clock with pen? Pencil?

It's best to use pens so whoever is completing the clock isn't able to erase anything. However, self-corrections should be scored (and initial mistakes corrected by those new markings are ignored). If the participant is able to catch their own error, that suggests some intact executive functions.

9. **Size:** If there are no numbers present in the drawing how do you score for size? The score sheet specifies the clock needs to be 'large enough to accommodate all of the numbers'.

If numbers had been placed in the clock, would it have accommodated all 12? Based on the size of the other items drawn/included (if there are any), can you judge if the patient's writing would be too large to fit into the clock.

If no other indication of the patient's writing is available, would you be able to complete the clock and fit all of the necessary info into the outline the patient drew? If you'd be able to accommodate numbers 1-12 then score a 1. If not, score a 0.

10. **Hand length & Origin:** The hour hand, not the minute hand needs to be 80% the size (in correct order). What if they indicate the incorrect time? Do you give a point for different lengths?

Yes, give a point. This indicates they *might* have preserved an awareness that the hour and minute hands are of differing length.