Geneva Space Cruiser – a fully self-administered online tool to assess prospective memory

Instructions manual

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IMPORTANT :

This instructions manual provides a page-per-page guide of the task instructions used to administer the Geneva Space Cruiser online.

A free demo version of the Geneva Space Cruiser (in English) can be found here.

If you decide to reproduce the Geneva Space Cruiser, the information provided in this manual and the demo version can be used without copyright and free of charges. However, we kindly ask you to reference the initial validation study below in your projects that use data stemming from the Geneva Space Cruiser:

> Zuber, S., Haas, M., Framorando, D., Ballhausen, N., Gillioz, E., Künzi, M., & Kliegel, M. (2021) The Geneva Space Cruiser: A Fully Self-Administered Online Tool to Assess Prospective Memory across the Adult Lifespan. *Memory*. https://doi.org/10.1080/09658211.2021.1995435

If you would like direct access to our online tool to collect your data in a collaborative context, please contact us (Sascha.Zuber@unige.ch).

Geneva Space Cruiser – page-per-page instructions

1) Ongoing task and prospective memory instructions + practice

Page 1

In this task, your goal will be to gain as many points as possible.

To do so, you will navigate a spaceship whose purpose is to collect stars.

For each star that you collect, you will gain 30 points.

You can navigate the spaceship by using the arrow keys on the keyboard (up, down, left, right keys).

You will also have to avoid rocks. If your spaceship collides with one of the rocks, you will lose 100 points.

Thus, try to avoid the rocks by navigating the spaceship. You can also destroy the rocks by firing missiles from your spaceship.

To fire missiles, press the "F" key. If you destroy a rock, you will gain 30 points.

Click on "Continue" to proceed with the instructions.

Page 2

In the following pages, you will be able to familiarize yourself with the game.

You will start by familiarizing yourself with the navigation of the spaceship by using the arrow keys pointing up, down, right, and left.

You will also practice shooting missiles by pressing the "F" key.

Press "Start" to begin the familiarization phase.

Page 3

Press the right arrow key on your keyboard until the spaceship touches the edge of the screen.

Page 4

Press the left arrow key on your keyboard until the spaceship touches the edge of the screen.

Page 5

Press the up arrow key on your keyboard until the spaceship touches the edge of the screen.

Page 6

Press the down arrow key on your keyboard until the spaceship touches the edge of the screen.

Page 7

Very good! Now you can practice firing missiles by pressing the "F" key.

Page 8

Press the "F" key.

Page 9

Fire once more using the "F" key.

Page 10

Very good! Next, your spaceship will also need fuel.

You can display the fuel gauge by pressing the "C" key.

As soon as the fuel gauge is in the red section, you can refuel your spaceship by pressing the space bar on your keyboard. If you refuel it at the right time, you will gain 300 points.

If you forget to refuel it, the fuel gauge will automatically refill but you will not receive any points.

Press "start" to familiarize yourself with the fuel level of your spaceship.

Page 11

Press the "C" key on your keyboard to display the fuel gauge.

Page 12

Press the "C" key on your keyboard again to display the fuel gauge.

Page 13

Very good. Now that you are familiar with the different elements of the game, you can practice on a complete example of the game.

Summary of the goals:

- Collect stars – for each one you will gain 30 points.

- Avoid rocks – each collision will cost you 100 points.

- Destroy rocks – for each destroyed rock, you will gain 30 points.

- Refuel the spaceship – each time you refuel on time (when the gauge is in the red section only), you will gain 300 points.

Key reminder:

- Arrows – to navigate the spaceship.

- F – to fire missiles.

- C – to display the fuel gauge.

- Space bar – to refuel.

You can now do a full practice session.

Press "start" to begin the practice.

Page 14

Very good. You have completed the practice session.

Page 15

Very good. You have completed the practice.

Next time you will play this game, the goals will be the same as for this practice session.

Click on "continue".

2) Filler task – delay phase

>> Insert your instructions for the filler tasks or questionnaires of the delay phase here.

In the demo version of the Geneva Space Cruiser, we used a simple Code / Symbols task as follows:

Stimuli :

- 1 image as example
- 42 images for the task

Presentation format and response coding :

- Each image is presented for 5000ms maximum (or less; it disappears as soon as the participant responds).
- For each image, the response (the number that is selected) and the reactions times (in ms) are recorded
- In the end, you can calculate :
  o The number of correct responses
  o The total reaction time for all correct answers

**Task Code/Symbols - Instructions**

Page 1

In the following task, we will present you a series of 9 symbols. Each symbol will be accompanied by a number.

Above these 9 symbols and numbers, you will see a single symbol in the middle of the screen. It will be framed in **blue**.
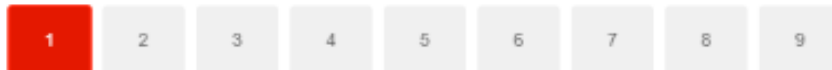
Your task will be to choose the number that matches the symbol in the middle as quickly as possible.

Page 2

First, here is an example:
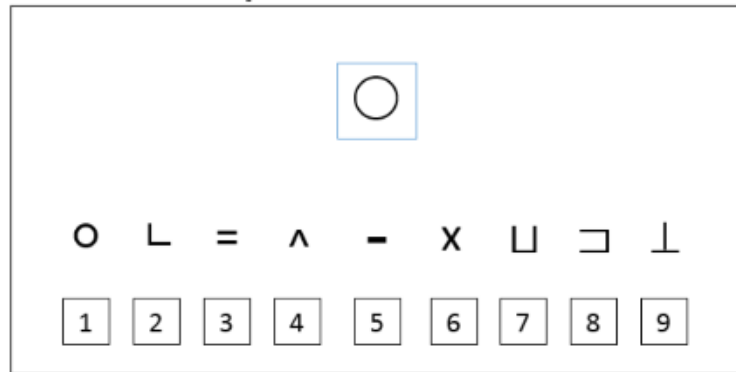
The correct answer for this series is the number 1 because the circle symbol is accompanied by the number 1. You will have to click on « 1 » to respond, as shown below.

Page 3

The task will now start and you will see several series of symbols and numbers.

As a reminder: your task is to choose the number that matches the symbol in the middle of the screen, framed in blue. Please answer as quickly as possible without making any mistakes.

Click on « → » to start the task.

3) Prospective memory task block

Page 1

Now you will have to navigate the spaceship as you did during the practice session.

Click on « start » to begin.

After the task / End

Thank you for taking the time to participate in this study.

Your answers have been recorded.

3) Prospective memory task block