Experiment Instructions

Welcome to the In and Out Gate working memory experiment! We appreciate your participation and value the effort and time you are taking to do so. This experiment consists of four blocks that will take a total of ~30 minutes to complete. Each block consists of 32 trials, from an evenly distributed, random assortment of four trial types.

The following will contain a description of each trial type:

Control First trials abbreviated as CF, will follow this flow: fixation cross “+” 🡪 trial specific cue, number “1” in white 🡪 fixation cross “+” 🡪 either a fractal or a white shape 🡪 fixation cross “+” 🡪 the remaining fractal or white shape 🡪 fixation cross “+” 🡪 Response window with the previous options are presented with other, dummy options. You will respond to the correct symbol associated with the cue, in this case the fractal cue, by hitting either the 0 or 1 key depending if the response window has that cue on the left or right side of the screen.

A close up of a logo

Description automatically generated

Cue

+ A picture containing food, cat

Description automatically generated + A picture containing flower

Description automatically generated + A close up of a logo

Description automatically generated

Stim 1 Stim 2 Response Window

**Correct Answer Here:** Cue 1 is always a fractal, so the globe-ish image will be the mapping for pressing the ‘0’ key on the ‘R’ side of the Response Window.

Control Last trials abbreviated as CL, will follow this flow: fixation cross “+” 🡪 either a fractal or a white shape 🡪 fixation cross “+” 🡪 the remaining fractal or white shape 🡪 fixation cross “+” 🡪 trial specific cue, number “2” in white 🡪 fixation cross “+” 🡪 Response window with the previous options are presented with other, dummy options. You will respond to the correct symbol associated with the cue, in this case the fractal cue, by hitting either the 0 or 1 key depending if the response window has that cue on the left or right side of the screen.

+ A close up of a logo

Description automatically generated + A close up of a logo

Description automatically generated + A close up of a logo

Description automatically generated

Stim 1 Stim 2 Cue

A close up of a logo

Description automatically generated

Response Window

**Correct Answer Here:** Cue 2 is always a shape, so the pie image will be the mapping for pressing the ‘1’ key on the ‘L’ side of the Response Window.

Global Control Last trials abbreviated as CL, will follow this flow: fixation cross “+” 🡪 either a fractal or a white shape 🡪 fixation cross “+” 🡪 the remaining fractal or white shape 🡪 fixation cross “+” 🡪 trial specific cue, number “3” in white 🡪 fixation cross “+” 🡪 Response window with the previous options are presented with other, dummy options. You will respond to the correct symbol combination associated with the cue, in this case the fractal and shape stimuli, by hitting either the 0 or 1 key depending if the response window has that cue on the left or right side of the screen.

+ A picture containing computer

Description automatically generated + A picture containing flower

Description automatically generated + A close up of a logo

Description automatically generated

Stim 1 Stim 2 Cue

A close up of a logo

Description automatically generated

Response Window

**Correct Answer Here:** Cue 3 is always the stimuli shape and fractal shown before Response Window here, so the rectangle and fractal image combined will be the mapping for pressing the ‘1’ key on the ‘L’ side of the Response Window.

Global Control First trials abbreviated as CF, will follow this flow: fixation cross “+” 🡪 trial specific cue, number “3” in white 🡪 fixation cross “+” 🡪 either a fractal or a white shape 🡪 fixation cross “+” 🡪 the remaining fractal or white shape 🡪 fixation cross “+” 🡪 Response window with the previous options are presented with other, dummy options. You will respond to the correct symbol combination associated with the cue, in this case the fractal and shape stimuli, by hitting either the 0 or 1 key depending if the response window has that cue on the left or right side of the screen.

A close up of a logo

Description automatically generated

Cue

+ A close up of a logo

Description automatically generated + A close up of a logo

Description automatically generated + A picture containing airplane

Description automatically generated

Stim 1 Stim 2 Response Window

**Correct Answer Here:** Cue 3 is always the stimuli shape and fractal shown before Response Window here, so the hollow X and fractal image combined will be the mapping for pressing the ‘1’ key on the ‘L’ side of the Response Window.

RESPONSE WINDOW: The above four trial types will individually appear eight times randomly throughout each block. You may respond to which symbol or pair of symbols is correct depending on block type based on where (L=left or R=right) they appear in the last window.

A picture containing airplane

Description automatically generated

Press 0 key here

Press 1 key here