

## **Full Task Instructions**

[Page 1]

Thank you for participating in our study!

This task is designed to understand how people mentally rotate objects. It will take approximately 25 minutes, including a brief set of practice trials to help you get familiar with the procedure.

(Press **SPACE** to continue.)

[Page 2]

In this task, you will see single letters appear on the screen.

These letters may be shown in their normal form, or shown in a mirrored form.

Each letter will also appear to be rotated in different angles.

F

Ǝ

Ɱ

ᄀ

(Normal form)

(Mirrored form)

(Normal form rotated)

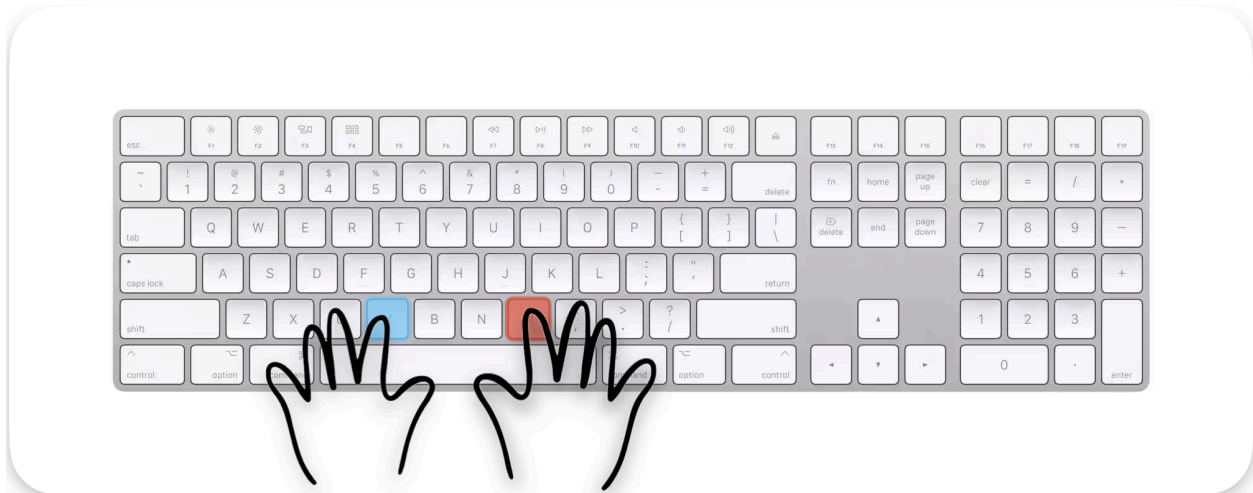
(Mirrored form rotated)

(Press **SPACE** to continue.)

[Page 3]

Your job is to decide whether the letter is:

- Normal - press [V]
- Mirrored - press [M]

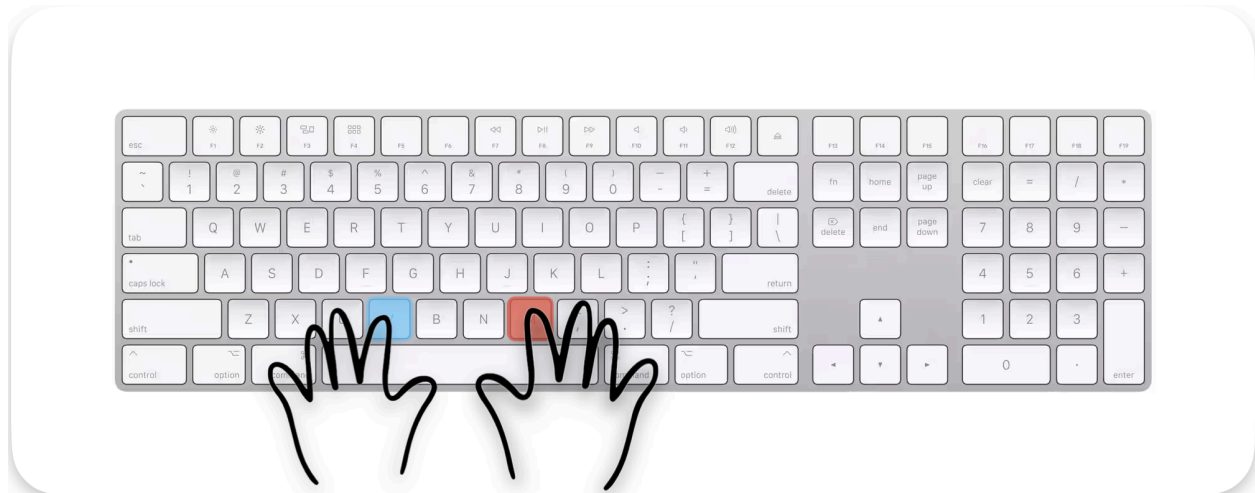


(Press **SPACE** to continue.)

[Page 3] (Reversed version)

Your job is to decide whether the letter is:

- Normal - press [M]
- Mirrored - press [V]



(Press **SPACE** to continue.)

[Page 4]

Here are some examples you are going to see during the task.

This image of “F” is in its **normal** form, with **0°** rotation.  
If you see this image, you should press **[V]**.



This image of “F” is in its **normal** form, with **60°** rotation.  
If you see this image, you should press **[V]**.



This image of “F” is in its **normal** form, with **-120°** rotation.  
If you see this image, you should press **[V]**.



This image of “F” is in its **mirrored** form, with **22.5°** rotation.  
If you see this image, you should press **[M]**.



This image of “F” is in its **mirrored** form, with **-67.5°** rotation.  
If you see this image, you should press **[M]**.



(Press **SPACE** to continue.)

[Page 4] (Reversed version)

Here are some examples you are going to see during the task.

This image of “F” is in its **normal** form, with **0°** rotation.  
If you see this image, you should press **[M]**.

A black uppercase letter 'F' in its normal, upright orientation.

This image of “F” is in its **normal** form, with **60°** rotation.  
If you see this image, you should press **[M]**.

A black uppercase letter 'F' rotated 60 degrees clockwise from its normal orientation.

This image of “F” is in its **normal** form, with **-120°** rotation.  
If you see this image, you should press **[M]**.

A black uppercase letter 'F' rotated 120 degrees counter-clockwise from its normal orientation.

This image of “F” is in its **mirrored** form, with **22.5°** rotation.  
If you see this image, you should press **[V]**.

A black mirrored uppercase letter 'F' (reversed) rotated 22.5 degrees clockwise from its normal orientation.

This image of “F” is in its **mirrored** form, with **-67.5°** rotation.  
If you see this image, you should press **[V]**.

A black mirrored uppercase letter 'F' (reversed) rotated 67.5 degrees counter-clockwise from its normal orientation.

(Press **SPACE** to continue.)

[Page 5]

You will now proceed to the practice trials.




Remember, Your job is to decide whether the letter is:

- Normal - press [**V**]
- Mirrored - press [**M**]

Place your index fingers on the [**V**] and [**M**] keys and press spacebar with either thumb when you are ready to start.

A letter will appear at the center of the screen. You will have **5 seconds** to respond. Try to respond as quickly and accurately as possible.

After you respond, one of the following feedbacks will be displayed for 1 second:

-  (**correct**) if the response is **accurate**.
-  (**incorrect**) in red if the response is **wrong**.
-  (**too slow**) if no response is given within **5 seconds**.

After every trial, you will see a white fixation cross for **2 seconds** to help reset your focus before the next trial begins.

(Press **SPACE** to continue.)

[Page 5] (Reversed version)

You will now proceed to the practice trials.




Remember, Your job is to decide whether the letter is:

- Normal - press [M]
- Mirrored - press [V]

Place your index fingers on the [V] and [M] keys and press spacebar with either thumb when you are ready to start.

A letter will appear at the center of the screen. You will have **5 seconds** to respond. Try to respond as quickly and accurately as possible.

After you respond, one of the following feedbacks will be displayed for 1 second:

-  (**correct**) if the response is **accurate**.
-  (**incorrect**) in red if the response is **wrong**.
-  (**too slow**) if no response is given within **5 seconds**.

After every trial, you will see a white fixation cross for **2 seconds** to help reset your focus before the next trial begins.

(Press **SPACE** to continue.)



[Page 6]

You will now proceed to the actual main task.

Remember, Your job is to decide whether the letter is:

- Normal - press **[V]**
- Mirrored - press **[M]**

Place your index fingers on the **[V]** and **[M]** keys and press spacebar with either thumb when you are ready to start.

A letter will appear at the center of the screen. You will have **5 seconds** to respond. Try to respond as quickly and accurately as possible.

After every trial, you will see a white fixation cross for **2 seconds** to help reset your focus before the next trial begins.

(Press **SPACE** to continue.)

[Page 6] (Reversed version)

You will now proceed to the actual main task.

Remember, Your job is to decide whether the letter is:

- Normal - press **[M]**
- Mirrored - press **[V]**

Place your index fingers on the **[V]** and **[M]** keys and press spacebar with either thumb when you are ready to start.

A letter will appear at the center of the screen. You will have **5 seconds** to respond. Try to respond as quickly and accurately as possible.

After every trial, you will see a white fixation cross for **2 seconds** to help reset your focus before the next trial begins.

(Press **SPACE** to continue.)

[Page 7]

Congratulations! Now you have completed half of the tests. Please take your time to relax, and continue the task whenever you feel prepared.

[Page 7] (After delaying for 10 seconds: forced break)

Congratulations! Now you have completed half of the tests. Please take your time to relax, and continue the task whenever you feel prepared.

(Press **SPACE** to continue.)

[Page 8]

You will now proceed to the actual main task.

Remember, Your job is to decide whether the letter is:

- Normal - press [**V**]
- Mirrored - press [**M**]

Place your index fingers on the [**V**] and [**M**] keys and press spacebar with either thumb when you are ready to start.

A letter will appear at the center of the screen. You will have **5 seconds** to respond. Try to respond as quickly and accurately as possible.

After every trial, you will see a white fixation cross for **2 seconds** to help reset your focus before the next trial begins.

(Press **SPACE** to continue.)

[Page 8] (Reversed version)

You will now proceed to the actual main task.

Remember, Your job is to decide whether the letter is:

- Normal - press **[M]**
- Mirrored - press **[V]**

Place your index fingers on the **[V]** and **[M]** keys and press spacebar with either thumb when you are ready to start.

A letter will appear at the center of the screen. You will have **5 seconds** to respond. Try to respond as quickly and accurately as possible.

After every trial, you will see a white fixation cross for **2 seconds** to help reset your focus before the next trial begins.

(Press **SPACE** to continue.)

[Page 9]

Thank you for your participation! You have successfully completed the task.

(Press **SPACE** to end the task.)