

We need your consent to proceed

You have been invited to take part in a research study named Active Learning. The study is designed to investigate how people learn in dynamic tasks. It will be conducted by Professor Todd M. Gureckis who is the principal investigator, at the Department of Psychology, Faculty of Arts & Science, New York University.

If you agree to be in this study, you will be asked to look at pictures of objects (e.g., geometric figures or photographs of everyday objects) presented on a computer display, listen to sounds, or observe lights controlled by the computer and to make judgments about them using a keyboard, mouse, or switch attached to a computer. Participation in this study will take about 20 minutes to complete, and you will receive \$1.00 for your participation. As an additional incentive to try your best at the task, you may earn a cash bonus of up to \$2.00 based on your performance.

When you complete the study, a thorough verbal and written explanation of it will be provided. In addition, by agreeing to participate, you understand you must be 18 years or older to participate.

There are no known risks associated with your participation in this research beyond those of everyday life. Although you will receive no direct benefits, this research may help the investigator understand how people learn new categories.

Confidentiality of your research records will be strictly maintained. We assign code numbers to each participant so that data is never directly linked to individual identity, and we are interested in group results rather than the responses of particular individuals. Data are kept in our laboratory and are only viewed by the investigators. These data files are kept on our computer indefinitely.


Taking part in this study is voluntary. Not taking part or withdrawing after the study has begun will result in no loss of services from NYU to which you are otherwise entitled. You have the right to skip or not answer any questions you prefer not to answer.

If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research-related problem, you may contact the principal investigator, Todd M. Gureckis at 6 Washington Place (409), New York, NY, 10003, (212) 998-3794, todd.gureckis@nyu.edu. For questions about your rights as a research participant, you may contact the University Committee on Activities Involving Human Subjects, New York University, 665 Broadway, Suite 804, New York, NY 10012, at ask.humansubjects@nyu.edu or (212) 998-4808.

 Please print a copy of this consent document to keep.

Do you understand and consent to the terms of the experiment explained above?

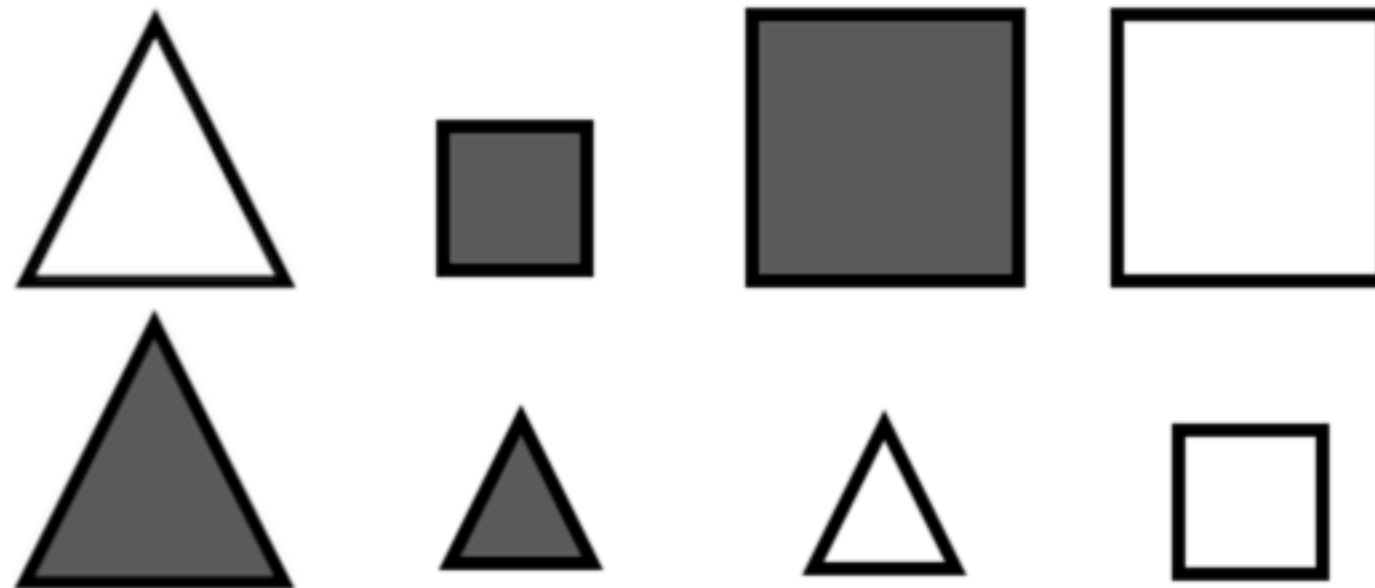
 I agree

 No thanks, I do not want to do this HIT

Instructions

Here, we will explain the basics of the task. Be sure to pay close attention! You will be quizzed on your understanding. If you have not understood the instruction, you may be asked to review them again.

In this experiment, you will view various objects that have each been assigned to one of two groups, [A](#) or [B](#). These are all the possible objects you will see in this experiment:

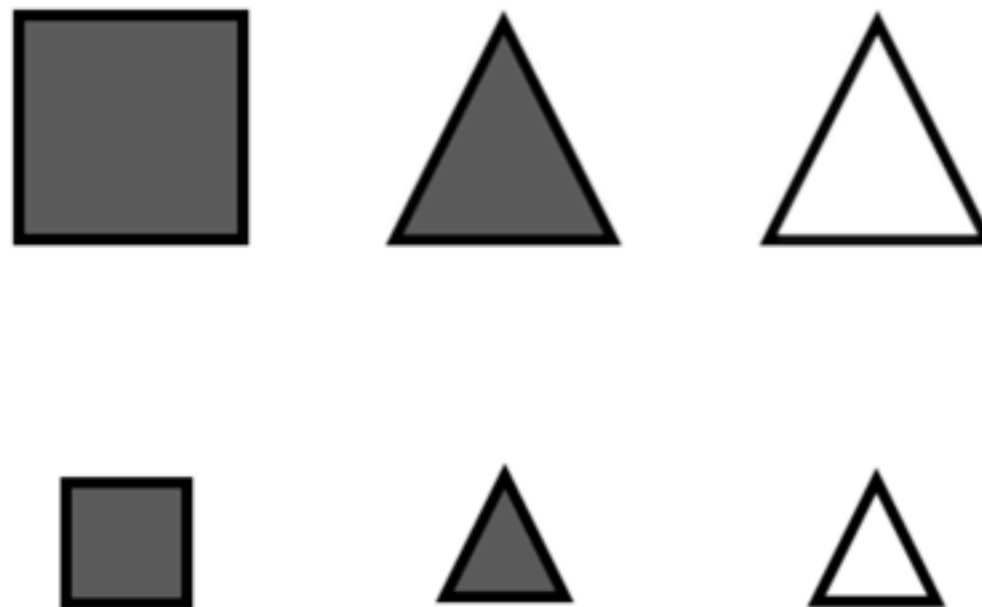


Of the eight objects, half (four) are in group [A](#) and half (four) are in group [B](#). Your task will be to learn which items are in each group. When you're ready to continue, press [Next](#).

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Instructions

The objects are assigned to group A or B according to a pattern. Your job is to discover what that pattern is. As an example, we'll look at some ways that the following object might be grouped:



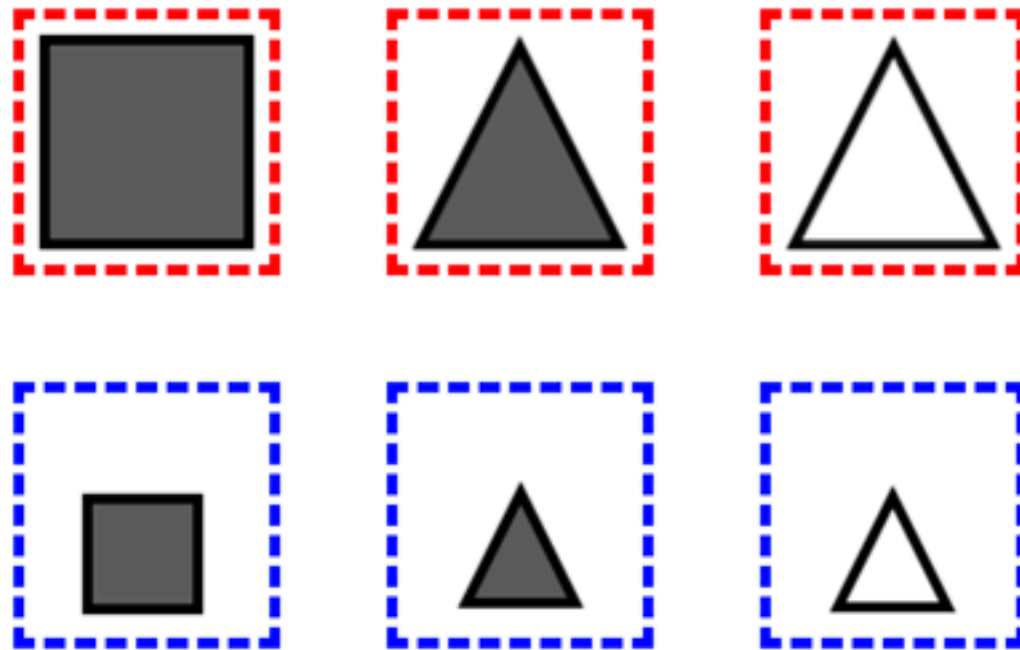
When you're ready to continue, press [Next](#).

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Instructions

For example, objects might be grouped by size, with large objects in one group (say, [A](#), indicated in red) and small objects in the other group (say, [B](#), indicated in blue):



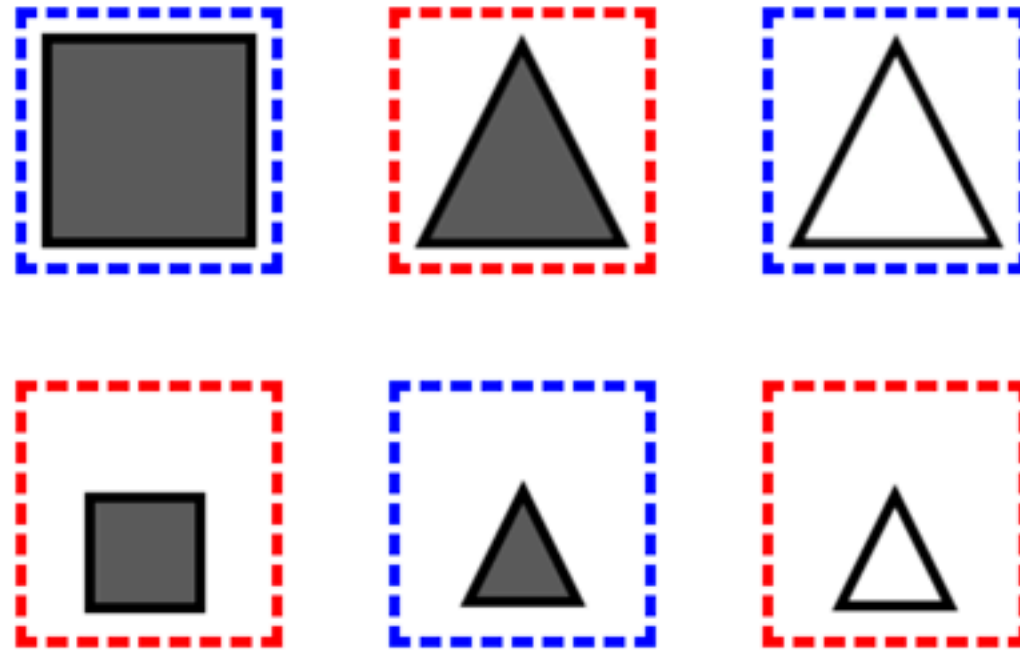
When you're ready to continue, press [Next](#).

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Instructions

However, these same objects could also be grouped in a more complicated pattern, like the one depicted here:



Your goal in this task will be to learn the grouping pattern so that you can correctly name the group for every object. You can use any learning strategies you want - for example, you might come up with a rule to remember the pattern, or you might memorize some or all of the objects.

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Instructions

Instructions

During the task, you will view each object presented one at a time and you will be asked to judge the group membership. The screen will look something like this:



Which group does the object belong to?

A

B

Try your best to respond with the correct group name for that particular object. To give a response, you simply click the button corresponding to the label you think is associated with the object. Afterwards you will receive feedback about the correct membership. Try it out above!

When you're ready to continue, press [Next](#).

0.0.0.0:5001 says

You have chosen A! In the real experiment, we would tell you if you were right or wrong.

OK

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Instructions

At first, the experiment may be difficult and you may have to guess for some or all of the items. That is ok. We are interested in how people gradually learn. As you are given more learning opportunities the task will become easier. If you find it difficult and you have to guess that is ok. Do not take notes with any device or pen and paper.

The pattern grouping the objects might be simple, a little complicated, or very complicated. It's ok to make mistakes, and be patient as you learn.

The answers you choose in the learning section are for **your benefit only**; we want you to learn the groupings and how well you do in this part does not determine your payment.

After the learning section, you will enter the "test section" where you will see each object once and respond with whether you think it is in group A or B. Since it is a test, you won't be told whether you're right or wrong like in the learning section. Do your best using what you've learned, because **the better you do on the test, the more likely you are to receive a cash bonus**. When you're ready to continue, press **Next**.

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Instructions

Let's learn about the different objects you will see.

Shape



Square



Triangle

There are three specific ways in which the objects can vary. We will step through them each in turn. The first is the shape: objects can be either **squares** or **triangles**, as depicted above.

When you're ready to continue, press [Next](#).

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Instructions

Size



Small



Large

Another way they can vary is in size: the objects can be **large** or **small**.

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Instructions

Fill color



White



Black

Finally, some objects will be colored in **white**, others with **black**.

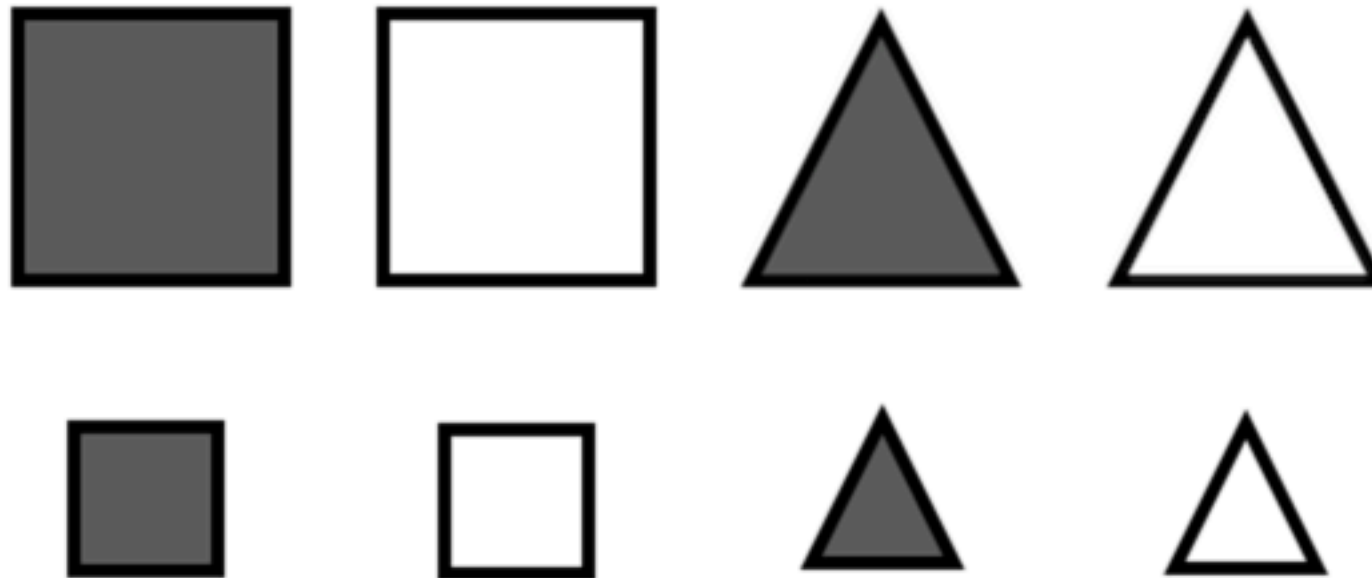
When you're ready to continue, press [Next](#).

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Instructions

In total, there are eight different objects. They vary in **shape** (square or triangle), **size** (small or large), and **fill color** (white or black).



When you feel you have understood the three features that can vary in the objects, press [Next](#).

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Instructions

Thank you for your patience so far! Just a few final instructions.

At the beginning of the experiment, you learn which objects are in group A or B through trial and error. This learning phase will last approximately 5 minutes.

Then, you will take a test to see what you have learned, where you see each object **once** and respond with group A or B. The format is the same the learning phase except we won't tell you whether your answer is right or wrong.

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Instructions

You should do your best on the test, because [getting a higher score on the test gives you a higher chance at winning an additional bonus payment of \\$10.](#)

The exact chance at the bonus is based on how many of the eight objects you can label correctly (group A or B). Imagine that we put blue marbles and red marbles into a bag, shake it up, and choose a marble randomly. If we pull out a blue marble, you will receive an extra \$10. If we pull out a red marble, you will only receive the base payment for the task.

To begin, the bag is empty.

- If you answer [four or fewer](#) of the test questions correctly, we will add [zero blue marbles](#) to the bag.
- If you answer [five](#) of the test questions correctly, we will add [one blue marble](#) to the bag.
- If you answer [six](#) of the test questions correctly, we will add [two blue marbles](#) to the bag.
- If you answer [seven](#) of the test questions correctly, we will add [three blue marbles](#) to the bag.
- If you answer [eight](#) of the test questions correctly, we will add [four blue marbles](#) to the bag.

Four is the maximum number of blue marbles that can be in the bag, and this will only happen if you get all the answers on the test correct.

When you're ready to continue, press [Next](#).

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Instructions

In addition to the blue marbles we put in the bag based on your test score, we also put **4 (four) red marbles in the bag**.

Having more blue marbles in the bag increases your chance at the bonus, so you should do your best to learn the categories correctly to do well on the test.

When you're ready to continue, press **Next**.

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Instructions

Before starting the experiment, we would like to request that you try your best remove [all](#) possible sources of distraction.

Please turn off any external noise source (e.g. music, television), close all other windows open on your computer, ask other people to leave your immediate environment or to not distract you, and to concentrate on the experiment at hand. Evidence that you have been dishonest about following these instructions (for example, excessively long response times) could lead to revocation of payment.

Most importantly, [please do not](#) use any writing or drawings (or your computer) to help you remember. We are cognitive psychologists interested in how people learn using their own minds. We rely on your honesty for this. Please try to figure out which group name goes with each object on your own. While the task may be difficult at first, it will get easier as you go, and it is ok to make mistakes.

When you're ready to continue, press [Next](#).

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Instructions

To review:

You will try to discover which objects belong to either group [A](#) or [B](#) using trial and error. Then you will take a test to show us what you've learned. Your score on the test will determine your chance at a bonus. Please try your best to stick with it until the end.

On the next page, we will ask you some questions about these instructions to make sure you have read and understood them.

When you're ready to continue, press [Next](#).

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Comprehension Check

Before beginning the experiment, you must answer a few simple questions to ensure you have read the instructions. If you do not answer all questions correctly, you will be returned to the start of the instructions and have a chance to retake this quiz.

Which of the following is a valid rule for grouping the objects?

Of the eight unique objects, how many are in each group?

Which of the following aspects of the items may be relevant for determining the groups?

- ☐ Pattern (Striped vs. Plain)
- ☐ Fill color
- ☐ Border Style (Dashed vs. Solid)
- ☐ Border Color
- ☐ Shape (Triangle vs. Square)
- ☐ Size

How many questions are on the test at the end?

If you get three questions correct on the test, how many blue marbles do you earn to add to your chance at the bonus?

Should you use pen and paper to help remember the labels for each item?

Continue

Comprehension Check

Before beginning the experiment, you must answer a few simple questions to ensure you have read the instructions. If you do not answer all questions correctly, you will be returned to the start of the instructions and have a chance to retake this quiz.

Which of the following is a valid rule for grouping the objects?

All black objects are in group A except for the small square, which is in group B. ▼

Of the eight unique objects, how many are in each group? Four in group A, four in group B. ▼

Which of the following aspects of the items may be relevant for determining the groups?

- ☐ Pattern (Striped vs. Plain)
- ☒ Fill color
- ☐ Border Style (Dashed vs. Solid)
- ☐ Border Color
- ☒ Shape (Triangle vs. Square)
- ☒ Size

How many questions are on the test at the end? Eight. ▼

If you get three questions correct on the test, how many blue marbles do you earn to add to your chance at the bonus? Zero marbles. ▼

Should you use pen and paper to help remember the labels for each item? No. ▼

Continue

Labeling Experiment

Choose a membership for the following object.



Which group does the object belong to?

A

B

Learning round complete

Round complete!

Now, you will take part in the "test" phase. You will see each item **once** and report whether it is in group A or in group B.

Your performance in this next round will determine your bonus payment.

Continue

Testing round complete

Round complete! You're almost done!

Press [continue](#) to move on to the questionnaire.

Your bonus payment will be displayed after you submit this brief survey.

Continue

Task Complete

You are almost done!

Congratulations, you are finished! You will be eligible for payment once you answer the following questions.

On a scale of 1-10 (where 10 is the most engaged), please rate how **ENGAGING** you found this task:

On a scale of 1-10 (where 10 is the most difficult), please rate how **DIFFICULT** you found this task:

If you had any particular strategies for playing the game, please give a brief description in your own words.

What gender do you identify with?

How old are you in years? Enter '-1' if you would prefer not to respond.

How would you describe your level of educational attainment?

If you attended university, what subject area did you major in (if not, leave this blank)?

Continue

Thanks for your participation

Thanks again for your participation in our study!

To complete the HIT, simply press the button below.

Complete HIT