Sequential task: instructions

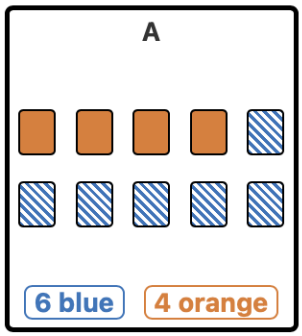
In this study, you will complete a series of decision-making tasks.

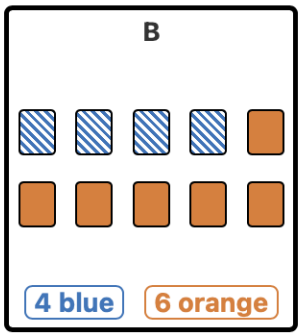
Overview of task

There are 2 decks of cards, named **Deck A** and **Deck B**.

Each deck has 10 cards. These are divided into two different types: blue and orange. The amount of blue versus orange cards depends on the deck.

You can see the decks below. They will stay the same throughout the study.





Here's the task. The computer will select a deck, and you'll have to guess which one it chose. You will receive some information to base your guesses on. Specifically, the computer will randomly draw cards from the deck that it selected and show you the color. You'll make a guess after each new card.

Payment

For completing this study, you are guaranteed to earn $5. **You can earn more depending on your decisions.** Earnings from your decisions are in points, where: 15 points = $1.

The study will be split into two parts, which both involve the guessing task we just described. We will give you instructions for Part 1 now. You will receive instructions for Part 2 after you finish Part 1.

The interface will time out and ask you to **return your study** if:

- You fail a **comprehension quiz about the Part 1 instructions**, in accordance with Prolific's policy.
- You spend more than **10 minutes** on a page without advancing.

Next

Instructions

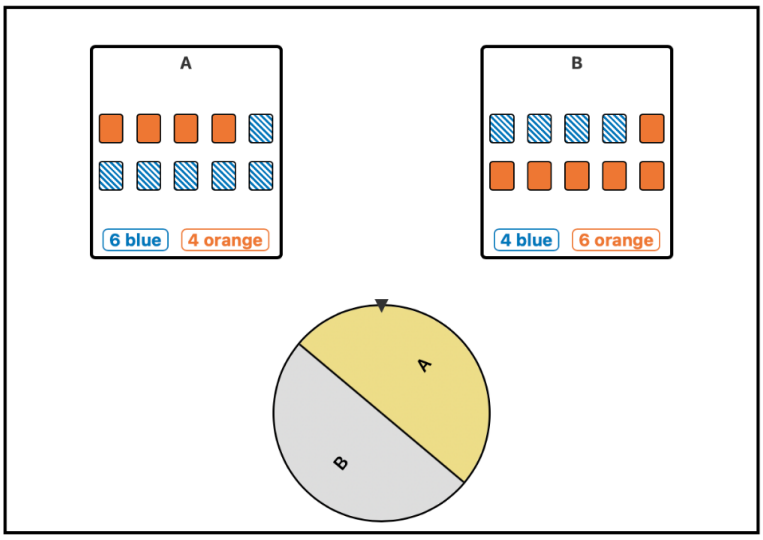
Selecting a deck

At the start of the task, the computer will select a deck using the wheel on the right.

50% of the wheel is labeled **A**, for **Deck A**.

50% of the wheel is labeled **B**, for **Deck B**.

Like the decks, the breakdown of this wheel won't change.



Here's how the deck gets selected. The computer will start spinning the wheel, and stop it at a random point before it can complete a spin. If the pointer lands on A, then Deck A is selected. If the pointer lands on B, then Deck B is selected. This means that:

There's a **50%** chance **Deck A** is selected.
There's a **50%** chance **Deck B** is selected.

Click the button below to see how it works.

Spin the wheel

In this example, the wheel landed on Deck A.
So, Deck A would be selected.

In the actual study, you won't observe where the wheel lands. That's because your job will be to guess the percent chance that each deck was selected.

Without any other information, the best guess you can make for a deck is just its chance on the wheel. That's 50% for Deck A and 50% for Deck B.

During the task, however, you will receive additional information about the selected deck to help you improve your guess.

The task has **4 rounds**, where each round has two parts. We will explain each part of a round now.

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Instructions

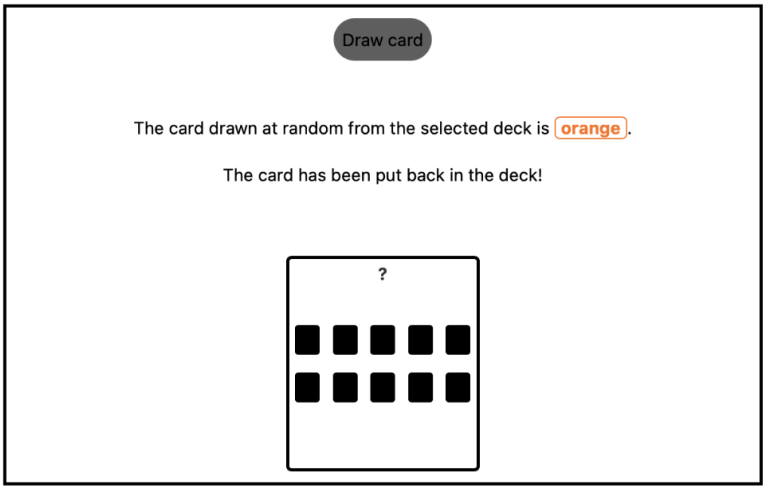
Part 1 of Round: Information

At the start of the round, you will get one piece of information about which deck was selected. Specifically:

- The computer will draw a card **at random** from the selected deck.
- It will show you the color.
- It will **put the card back** in the deck.

For each draw, you pick at random from all of the cards in the selected deck.

Click "Draw card" to the right to see how it works.



Drawing cards from the deck that was selected helps you improve your guesses.

If the computer draws a **blue** card, it's a sign that the deck that was selected has a higher number of **blue** cards.

If the computer draws an **orange** card, it's a sign that the deck that was selected has a higher number of **orange** cards.

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Instructions

Part 2 of Round: Guess

After you see the card, you will guess which deck got selected for the task.

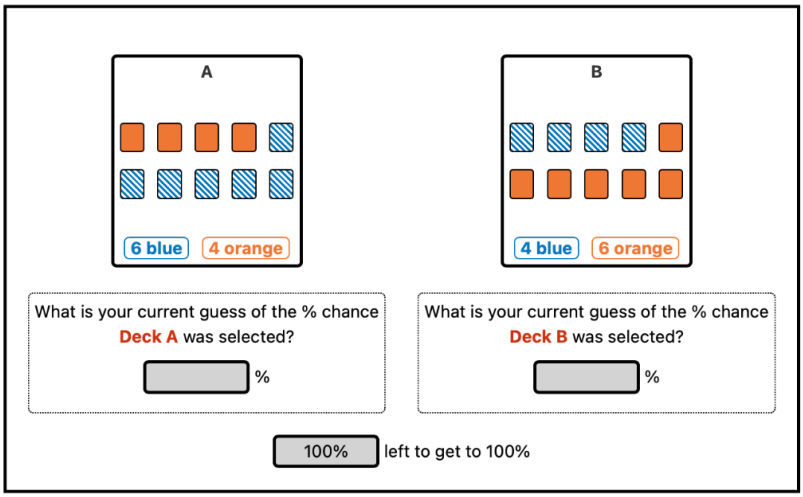
Specifically, you will enter your current best guess of the % chance that Deck A got selected and of the % chance that Deck B got selected. The interface is on the right.

- It shows each of the decks, with the number of blue and orange cards labeled.
- There's a box under each deck to enter your guess. You can guess any whole number between 0 and 100, including 0 or 100.

To submit your answers:

- You must enter a guess for all of the decks.
- Your guesses must add to 100. At the bottom, you can see how much you have left to get to 100, or whether you've gone over.

After you draw a card, a timer will not let you submit until at least 10 seconds have passed.



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Instructions

Sequence of Part 1 and your payment

Sequence of Part 1

You will complete the guessing task **5** times. We will refer to these as Task 1, Task 2, and so on.

In each task:

- The computer will spin the wheel to select one of the decks. This means you should think about which deck was selected in each task **independently** of all other tasks.
- You will complete **4** rounds of decisions.
- In each round, you will see a card drawn at random from the selected deck. After you see the card, you will enter your current best guess about which deck the computer selected.

In total, you will complete **20** rounds of decisions: 4 rounds each for 5 decks.

Payment

For completing this study, you are guaranteed to receive $5.

You can earn **more** than that from your decisions. These earnings are in points, where: 15 points = $1.

We will now explain how your point total for Part 1 is calculated.

> We will choose **half of the rounds at random**, and pay you for the **accuracy** of your guesses in each of those rounds.
>
> To calculate your pay from a round, we use a formula that gives you either 10 points or nothing, depending on your guesses and the actual deck that was selected.
>
> The formula is designed so that you **maximize your chance of getting 10 points** when you enter **your true best guess**, rather than some other number.
>
> The formula itself is a bit complex, and understanding it will not help you make decisions. If you'd like, you can read an explanation of the formula here.

This ends the instructions. You will now take a short comprehension quiz, and then complete one practice run of the task. Once this is finished, you will start Part 1.

Next

Comprehension Quiz

You have two attempts to answer all of the questions correctly.

Question 1 (review instructions)

Which of the following statements is correct? When the computer selects a deck at the start of the task:

- The deck that is selected depends on the last deck that was selected.
- There is a 50% chance it selects Deck A, and a 50% chance it selects Deck B.
- The chance of a deck is different from what's listed next to the wheel.

Question 2 (review instructions)

In Part 1 of each round, you get a piece of information about which deck was selected. In this part of a round, the computer always draws a card:

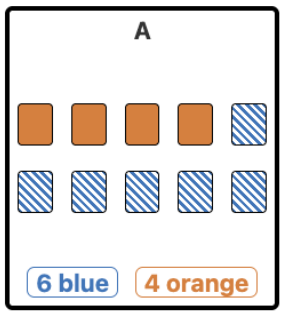
- from the cards that have not yet been drawn.
- in the order of the picture of the deck.
- at random from all the cards in the selected deck.

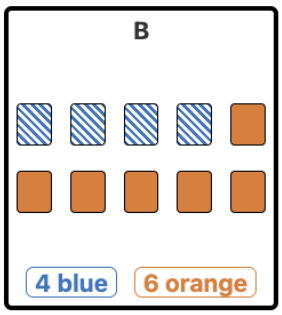
Question 3 and 4 (review instructions)

These two questions are to check your understanding of how to use the information available to you to form guesses.

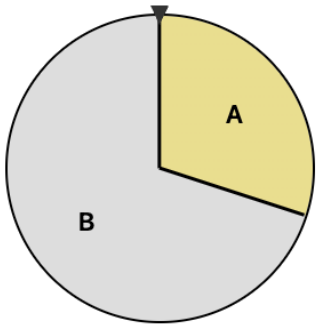
Consider the following scenario.

At the start of the task, a deck is selected using the wheel below (note that this wheel is different from the one used in Part 1 of the study):





30% chance **Deck A** is selected.
70% chance **Deck B** is selected.



Question 3: Without any additional information, what is the best guess you can make about the percent chance that Deck B ended up being selected in this particular task?

70%

50%

30%

Question 4: Now, suppose one card is drawn at random from the selected deck. This card is **orange**.

Based on this additional information, is the likelihood that Deck B ended up being selected in this particular task:

lower than 70%

higher than 70%

still 70%

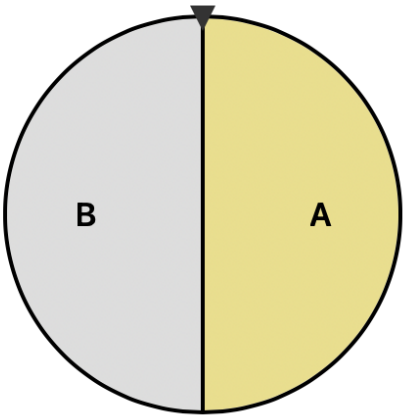
Sequential task: interface

Practice

The computer has spun the wheel to select a deck.

Remember, there's a:

50% chance **Deck A** has been selected.
50% chance **Deck B** has been selected.



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Round 1 for Practice Task

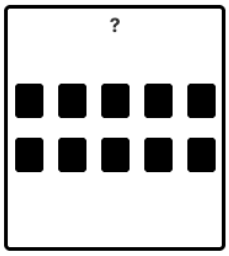
Part 1: Draw a card at random from the selected deck

(review instructions)

Draw card

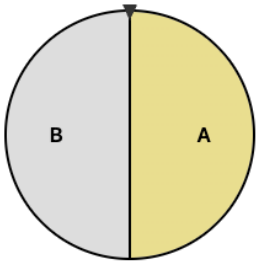
The card drawn at random from the selected deck is orange.

The card has been put back in the deck!



Your information

At the start of the task:



There was a:

50% chance Deck A was selected

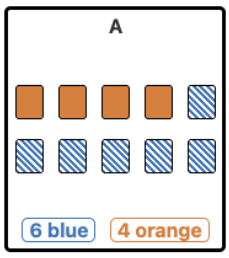
50% chance Deck B was selected

So far, the cards you've drawn from the selected deck are:

Card 1	Card 2	Card 3	Card 4
■	□	□	□

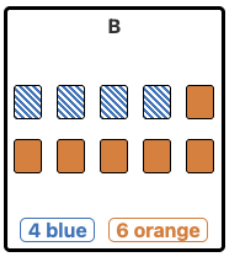
Part 2: Make your guesses

(review instructions)



What is your current guess of the % chance Deck A was selected?

[ ] %



What is your current guess of the % chance Deck B was selected?

[ ] %

100% left to get to 100%

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One-shot task: instructions

Instructions

Part 2 Guessing Task

Here is the sequence of the guessing task.

Select deck

First, the computer will spin a wheel to select one of the decks. In the top panel of the interface, you'll see the wheel that the computer is using.

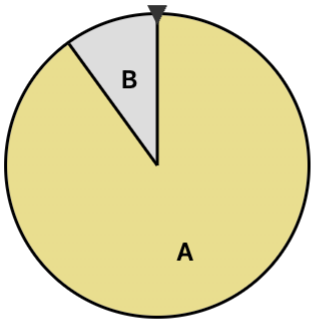
The chance of each deck will be different from task to task.

Below is an example. In this task: Deck A would be selected with 90% chance, and Deck B would be selected with 10% chance.

Deck A will always be selected with higher chance than Deck B. This is just to help you avoid mixing up the decks.

Always make sure to read the details next to the wheel, so you know the particular chance each deck is selected in the task.

90% chance **Deck A** is selected.
10% chance **Deck B** is selected.



Next

Guesses

Then, you'll move on to making guesses. This will work a bit differently from Part 1.

The computer will draw **one single card at random** from the deck that was selected.

This means there are just two possibilities for the additional information you can get about the selected deck: either the computer draws a blue card from it, or the computer draws an orange card from it.

You will make guesses for **both** of these cases, without first seeing the card. The interface is in the black box below.

In the first column, you answer the following:

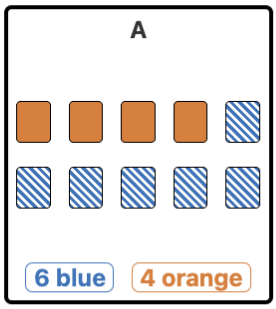
If the card drawn at random from the selected deck is **blue**

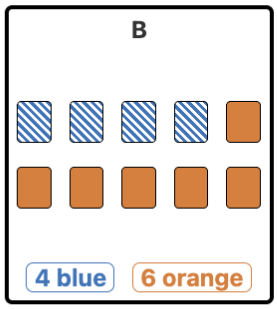
- what is the % chance that Deck A was selected?
- what is the % chance that Deck B was selected?

In the second column, you answer the following:

If the card drawn at random from the selected deck is **orange**

- what is the % chance that Deck A was selected?
- what is the % chance that Deck B was selected?





If the card drawn at random from the selected deck is
blue

What is your guess of the % chance **Deck A** was selected? ____ %

What is your guess of the % chance **Deck B** was selected? ____ %

100% left to get to 100%

If the card drawn at random from the selected deck is
orange

What is your guess of the % chance **Deck A** was selected? ____ %

What is your guess of the % chance **Deck B** was selected? ____ %

100% left to get to 100%

Payment

Half of the tasks in Part 2 will be **randomly** chosen for payment.

In each of these tasks, only one case happens: the computer draws a blue card at random from the selected deck, or it draws an orange card at random.

We will pay you based on the **accuracy** of your guess for the **case that happens**, using the same formula as in Part 1. At the end of the study, you can see a table with the card that was drawn in each task.

You should always **enter your best guess honestly**, since you don't know which case will occur.

You will now complete one practice round, where your decisions do not count for payment. Then you will start Part 2.

One-shot task: interface

Practice

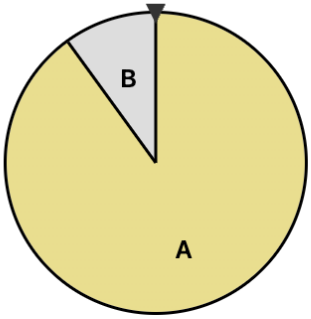
(review instructions)

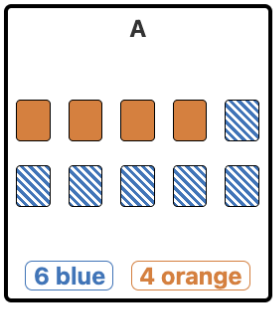
For this task, there's a:

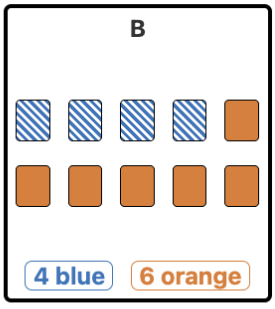
90% chance **Deck A** has been selected.

10% chance **Deck B** has been selected.

Now, the computer will draw one card at random from the selected deck.







If the card drawn at random from the selected deck is **blue**

What is your guess of the % chance **Deck A** was selected? [ ] %

What is your guess of the % chance **Deck B** was selected? [ ] %

100% left to get to 100%

If the card drawn at random from the selected deck is **orange**

What is your guess of the % chance **Deck A** was selected? [ ] %

What is your guess of the % chance **Deck B** was selected? [ ] %

100% left to get to 100%

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