

Below is the full text of instructions given to human participants.

Note that for each chip variant, the stages, terms of service, final survey, comprehension checks, and explanations are the same *except* for any chip-specific information (e.g., mention of types of chips available).

Instructions for 2 chip variant

1. Terms of Service

Thank you for your interest in this research. If you choose to participate, you will be asked to play negotiation games with other participants. In total, this will take around 25 minutes.

Compensation

You will be paid a base amount for playing the games and completing the survey. You may receive an additional bonus on your performance in the games.

IRB

The results of this study will be used solely for research purposes. Our team will keep all your information from this study strictly confidential, as required by law. The IRB at the **XXXXXX** is responsible for protecting the rights and welfare of research volunteers like you.

Voluntary participation

Your participation is voluntary, which means you can choose whether or not to participate. You may choose not to participate by exiting the survey at any point. There are no known costs to you for participating in this research study except for your time.

Contact

Please feel free to contact us through Prolific or your game administrator if you have any questions, concerns, or complaints about this study.

By checking the box below and proceeding, you are acknowledging that you are over the age of 18 and that you consent to participate. Clicking the arrow will bring you to the beginning of the task.

[Checkbox for "I accept the Terms of Service"]



2. View randomly generated profile

This identity is how other players will see you during today's experiment.

You will be playing as this randomly generated identity: [avatar and identity name]

3. Instructions: overview

In this experiment, you will be playing a trading game with other participants.



All of you will be given the same initial number of  red chips and  green chips, but you may value the different colors of chips differently.

By making and accepting offers, you can exchange chips with the other players to increase the total value of your chips.


You may receive a bonus payment depending on the value of your chips at the end of the game.



4. Instructions: chip valuations 1

You will play this trading game two times against two different groups of participants. In each game, you and the other participants will start with:

-  10 red chips
-  10 green chips



Valuations:


Each  green chip is worth \$0.50 to each participant. However, you will all have different valuations for the red chips, randomly chosen between \$0.10 and \$1.00.

For example, Cat might value  red chips at \$0.30 each, while Mouse might value  red chips at \$0.80 each.


What this means:


Because each participant values the chips differently, there may be good reason to trade.

For instance, if you don't care much about  red chips but someone else does, you might offer your red chips to them in exchange for  green chips, which you like more.

You know your own chip valuation and that everyone values  green chips the same, at \$0.50 per chip. However, you do not know the other players' valuations for the other chips.

Participant Knowledge of Others' Valuations:

You know your own chip valuation and that everyone values  green chips the same, at \$0.50 per chip.

However, you do not know the other players' valuations for the other chips, and they do not know your valuations (besides  green chips).

5. Instructions: chip valuations 2

The following table is shown to you during the game. It provides the number of chips everyone has as well as a reminder of your own valuations.

Chip counts

*This table shows how many chips all participants currently have.
Participants are ordered by the order in which they will make offers.*

participant	 red (\$0.09 for you)	 blue (\$0.02 for you)	 green (\$0.05 for all)
 Dog (you)	10	10	10
 Cat	10	10	10
 Mouse	10	10	10
Initial total			\$1.60
Current total			\$1.60
Current payout (0 if negative)			\$0.00

6. Comprehension check


Please answer the following questions to verify your understanding of the instructions.
You may proceed once you have answered the questions correctly.

How many  red chips will you start with?

- 5
- 10
- 8
- 15

How many  green chips will each other player start with?

- 20
- 5
- 50
- 10

True or false: you and the other players will always value  green chips at the same amount, \$0.50 per chip.

- True
- False

True or false: you and the other players will always value NON-green chips at the same amount, \$0.50 per chip.

- True
- False

7. Gameplay: rounds

How the game works

The game consists of **3 rounds** of trading. During each round, each player will have a turn to propose **1 trade**. These turns are pre-determined in a random order.



8. Gameplay: proposing a trade

Trade proposals





To propose a trade, a player must:

1. Request a certain quantity of chips of a single color from any other player to get.
2. Specify a certain quantity of chips of a different color to give in return.

🌟 One tip


As a reminder, you can **always** make a beneficial offer as long as you have one chip left. For example, if you have one  red chip remaining, you can offer to **give** it and get 10  green chips in return for a profit. However, it is unlikely that someone will take you up on this offer. Please consider the tradeoffs. 😊

Trade rules

- Players cannot offer more chips than they currently hold. For example, if you only have 5  red chips, you cannot offer 6  red chips.
- Players cannot trade chips of the same color. For example, you cannot trade  red chips for  red chips.

👉 It's your turn! Make an offer to the other participants.

You give:  red ▼

You get:  green ▼

If this offer is accepted, your updated payout will be **\$1.10 (-0.50)**.

Submit offer




9. Gameplay: completing a trade

Trade completion

When an offer is presented, all other active participants get a chance to accept or decline.

Note: Active participants are those not currently making the offer.

Incoming offer!

 Dog is offering to give  **10 red chips** to get  **8 green chips** in return.

If you accept this offer, your updated chip value will be **\$2.20 (+0.20)**.

Accept offer

Reject offer

Participants make their decisions simultaneously and privately. The participant who receives the offer is not dependent on who accepts the trade first. Some possible outcomes:

- If no one accepts, the trade does not happen, and the turn ends.
- If multiple participants accept, one accepting participant is *chosen at random* to complete the trade with the offering participant. This means that the participant proposing the trade cannot choose who they trade with.
- If only one participant accepts, the trade will happen.

10. Gameplay: summary

Key points to remember

- In each round, each player gets to propose one trade and respond to other player's trades.
- You can only propose trades between different colored chips, and cannot offer to give a chip amount that you do not have.
- When multiple players accept a trade, the trading partner is randomly selected.

Feel free to click back to previous sections to review the instructions.









11. Comprehension check 2

Please answer the following questions to verify your understanding of the instructions. You may proceed once you have answered the questions correctly.

True or false: A player can propose multiple trades during their turn in a round.

- True
- False

Which of the following trades is NOT allowed?


- Trading  3 red chips for  2 green chips
- Trading  4 green chips for  4 red chips
- Trading  2 red chips for  4 red chips
- Trading  5 green chips for  3 red chips

True or false: The number of chips offered must equal the number of chips requested.

- True
- False

True or False: Players who accept a trade proposal do not know at the time of accepting the proposal whether they will be the one chosen to complete the trade.

- True
- False

Say that a player proposes trading  3 red chips for  4 green chips. Who can accept this trade?

- Any player with 4 or more green chips
- Only players with exactly 4 green chips
- Only the player with the most green chips
- Any player with any number of green chips

12. Payment information

Bonus payment

At the end of the study, we will randomly pick **one** of the two negotiation games you played and give you a bonus payment from that game.

There are two important features to remember about the bonus:

- The bonus will be equivalent to how much money you earn through trading *beyond* what you start with.
- If you do not complete both games, you will not receive a bonus payment.



In short, you want to make as much money as you can through trading!

13. Payment information examples

Bonus payment example calculation

Suppose that for the first game, you started with 10 chips of each color, worth $(10 * 0.30 + 10 * 0.50) = \text{\$8.00}$.

At the end of that game, you have:

-  12 red chips valued at \$0.30 each
-  10 green chips valued at \$0.50 each

You would receive $(\$8.60 - \$8.00) = \text{\$0.60}$ as a bonus for the first game.

If you did not increase the value of your chips, you would not receive a bonus.

Your total bonus will be randomly selected from either the first or the second game.

The exact values will depend on your random chip valuations and your final holdings, so your payment may differ from this example.

This payment is in addition to the base payment for participating.

14. Transfer stage

Please wait on this page for up to 10 minutes as you are transferred to the next stage of this experiment. Thank you for your patience.

[When a transfer is initiated, the participant sees a pop-up dialog with the text:








You have been transferred to a new group!

- [Button] Decline the invitation (This will end the experiment.)
- [Button] Join the experiment (This will redirect you to the next part of the experiment.)

]

15. First negotiation game

[Chip trading interface as shown in screenshots in instructions above, as well as a side panel with chronological log of interactions, e.g.,


-  Badger is offering  2 red chips of their chips to get  4 green chips in return.
-  Deal made:  Badger 's offer was accepted by  Goose .
- Your turn ( Goose) to submit an offer!

]

16. Instructions for part 2

Congratulations!

You've successfully completed your first game! Now, it's time to play again with all the **same rules**. However, for this second round, please note the following changes:

- **New profile:** You will be playing as a new profile, and you will be playing against different animal profiles.
- **New chip values:** You will receive a different valuation for your red and blue chips. The value of the  green chip will remain the same for everyone (\$0.50).

All players participating in this round are also playing for their second time. **Enjoy the game!**








17. View secondary randomly generated profile

This identity is how other players will see you during the second game.

You will be playing as this randomly generated identity: [avatar and identity name]

18. Second negotiation game

[Chip trading interface as shown in screenshots in instructions above, as well as a side panel with chronological log of interactions, e.g.,

-  Badger is offering  2 red chips of their chips to get  4 green chips in return.
-  Deal made:  Badger 's offer was accepted by  Goose .
- Your turn ( Goose) to submit an offer!

]

19. Payout

Payout from [game 1 / game 2] (one game was randomly selected)

Chip payout

[red chip payout]  red chips ([final quantity] chips x [valuation])

[green chip payout]  green chips ([final quantity] chips x \$0.5)

Initial chip value [correct answer]

Final chip value [correct answer]

Final payout (0 if negative) [correct answer]

Stage payout [total value]

Final payout [same total as stage payout]

20. Final survey

Please describe your strategy in the game in a few sentences.*

[Freeform text box]

Please describe any experiences or background that may have influenced your performance in the game.*

[Freeform text box]

On a scale from 1 to 10, how would you rate your trading strategy, where 1 is highly **competitive** (focused mainly on your own gains) and 10 is highly **collaborative** (focused on other players's potential gains and mutual benefits)?*

[Radio button scale of 1 to 10, where 1 is "Not at all aggressive" and 10 is "Very aggressive"]

On a scale from 1 to 10, how certain are you that you made the best possible trades during the experiment?*

[Radio button scale of 1 to 10, where 1 is "Not at all confident" and 10 is "Very confident"]

On a scale from 1 to 10, how satisfied are you with your final trading outcomes?*

[Radio button scale of 1 to 10, where 1 is "Not at all satisfied" and 10 is "Very satisfied"]

On a scale of 1 to 10, how would you rate the mental effort you put into today's trading games, where 1 means 'I barely engaged in any thinking' and 10 means 'I put in significant mental effort'?*

[Radio button scale of 1 to 10, where 1 is "No mental exertion at all" and 10 is "Very high mental exertion"]

Please provide any additional context on your answers above.*

[Freeform text box]

Please help us to improve this experiment. How was your experience today? Were there any elements of the instructions or gameplay that you found confusing?*

[Freeform text box]

Instructions for 3 chip variant

1. Terms of Service

Thank you for your interest in this research. If you choose to participate, you will be asked to play negotiation games with other participants. In total, this will take around 25 minutes.

Compensation

You will be paid a base amount for playing the games and completing the survey. You may receive an additional bonus on your performance in the games.

IRB

The results of this study will be used solely for research purposes. Our team will keep all your information from this study strictly confidential, as required by law. The IRB at the XXXXXX is responsible for protecting the rights and welfare of research volunteers like you.

Voluntary participation

Your participation is voluntary, which means you can choose whether or not to participate. You may choose not to participate by exiting the survey at any point. There are no known costs to you for participating in this research study except for your time.

Contact

Please feel free to contact us through Prolific or your game administrator if you have any questions, concerns, or complaints about this study.

By checking the box below and proceeding, you are acknowledging that you are over the age of 18 and that you consent to participate. Clicking the arrow will bring you to the beginning of the task.

[Checkbox for "I accept the Terms of Service"]




2. View randomly generated profile

This identity is how other players will see you during today's experiment.

You will be playing as this randomly generated identity: [avatar and identity name]

3. Instructions: overview

In this experiment, you will be playing a trading game with other participants.




All of you will be given the same initial number of  red chips,  green chips, and  blue chips, but you may value the different colors of chips differently.

By making and accepting offers, you can exchange chips with the other players to increase the total value of your chips.


You may receive a bonus payment depending on the value of your chips at the end of the game.





4. Instructions: chip valuations 1

You will play this trading game two times against two different groups of participants. In each game, you and the other participants will start with:

-  10 red chips
-  10 green chips
-  10 blue chips



Valuations:


Each  green chip is worth \$0.50 to each participant. However, you will all have different valuations for the red and blue chips, randomly chosen between \$0.10 and \$1.00.


For example, Cat might value  red chips at \$0.30 each and  blue chips at \$0.70 each, while Mouse might value  red chips at \$0.80 each and  blue chips at \$0.30 each.

What this means:


Because each participant values the chips differently, there may be good reason to trade.


For instance, if you don't care much about  red chips but someone else does, you might offer your red chips to them in exchange for  green chips, which you like more.

Similarly, you might trade  blue chips with another participant if they value them more than you do.

You know your own chip valuation and that everyone values  green chips the same, at \$0.50 per chip. However, you do not know the other players' valuations for the other chips.







Participant Knowledge of Others' Valuations:

You know your own chip valuation and that everyone values  green chips the same, at \$0.50 per chip.

However, you do not know the other players' valuations for the other chips, and they do not know your valuations (besides  green chips).

5. Instructions: chip valuations 2

The following table is shown to you during the game. It provides the number of chips everyone has as well as a reminder of your own valuations.

Chip counts			
<i>This table shows how many chips all participants currently have. Participants are ordered by the order in which they will make offers.</i>			
participant	 red (\$0.09 for you)	 blue (\$0.02 for you)	 green (\$0.05 for all)
 Dog (you)	10	10	10
 Cat	10	10	10
 Mouse	10	10	10
Initial total			\$1.60
Current total			\$1.60
Current payout (0 if negative)			\$0.00

6. Comprehension check


Please answer the following questions to verify your understanding of the instructions.
You may proceed once you have answered the questions correctly.

How many  red chips will you start with?

- 5
- 10
- 8
- 15

How many  green chips will each other player start with?

- 20
- 5
- 50
- 10

True or false: you and the other players will always value  green chips at the same amount, \$0.50 per chip.

- True
- False

True or false: you and the other players will always value NON-green chips at the same amount, \$0.50 per chip.

- True
- False

7. Gameplay: rounds

How the game works

The game consists of **3 rounds** of trading. During each round, each player will have a turn to propose **1 trade**. These turns are pre-determined in a random order.



8. Gameplay: proposing a trade

Trade proposals





To propose a trade, a player must:

3. Request a certain quantity of chips of a single color from any other player to get.
4. Specify a certain quantity of chips of a different color to give in return.


🌟 One tip


As a reminder, you can **always** make a beneficial offer as long as you have one chip left. For example, if you have one  red chip remaining, you can offer to **give** it and get 10  green chips in return for a profit. However, it is unlikely that someone will take you up on this offer. Please consider the tradeoffs. 😊

Trade rules

- Players cannot offer more chips than they currently hold. For example, if you only have 5  red chips, you cannot offer 6  red chips.
- Players cannot trade chips of the same color. For example, you cannot trade  red chips for  red chips.

👉 It's your turn! Make an offer to the other participants.

You give:  red ▼

You get:  green ▼

If this offer is accepted, your updated payout will be **\$1.10 (-0.50)**.

Submit offer




9. Gameplay: completing a trade

Trade completion

When an offer is presented, all other active participants get a chance to accept or decline.

Note: Active participants are those not currently making the offer.

Incoming offer!

 Dog is offering to give  **10 red chips** to get  **8 green chips** in return.

If you accept this offer, your updated chip value will be **\$2.20 (+0.20)**.

Accept offer

Reject offer

Participants make their decisions simultaneously and privately. The participant who receives the offer is not dependent on who accepts the trade first. Some possible outcomes:

- If no one accepts, the trade does not happen, and the turn ends.
- If multiple participants accept, one accepting participant is *chosen at random* to complete the trade with the offering participant. This means that the participant proposing the trade cannot choose who they trade with.
- If only one participant accepts, the trade will happen.

10. Gameplay: summary

Key points to remember

- In each round, each player gets to propose one trade and respond to other player's trades.
- You can only propose trades between different colored chips, and cannot offer to give a chip amount that you do not have.
- When multiple players accept a trade, the trading partner is randomly selected.

Feel free to click back to previous sections to review the instructions.









11. Comprehension check 2

Please answer the following questions to verify your understanding of the instructions. You may proceed once you have answered the questions correctly.

True or false: A player can propose multiple trades during their turn in a round.

- True
- False

Which of the following trades is NOT allowed?



- Trading  3 red chips for  2 green chips
- Trading  4 green chips for  4 red chips
- Trading  2 red chips for  4 red chips
- Trading  5 green chips for  3 red chips

True or false: The number of chips offered must equal the number of chips requested.

- True
- False

True or False: Players who accept a trade proposal do not know at the time of accepting the proposal whether they will be the one chosen to complete the trade.

- True
- False

Say that a player proposes trading  3 red chips for  4 green chips. Who can accept this trade?

- Any player with 4 or more green chips
- Only players with exactly 4 green chips
- Only the player with the most green chips
- Any player with any number of green chips

12. Payment information

Bonus payment

At the end of the study, we will randomly pick **one** of the two negotiation games you played and give you a bonus payment from that game.

There are two important features to remember about the bonus:

- The bonus will be equivalent to how much money you earn through trading *beyond* what you start with.
- If you do not complete both games, you will not receive a bonus payment.




In short, you want to make as much money as you can through trading!

13. Payment information examples

Bonus payment example calculation

Suppose that for the first game, you started with 10 chips of each color, worth $(10 * 0.30 + 10 * 0.50 + 10 * 0.70) = \text{\$15.00}$.

At the end of that game, you have:

-  8 red chips valued at \$0.30 each
-  7 green chips valued at \$0.50 each
-  21 blue chips valued at \$0.70 each

You would receive $(\$20.60 - \$15.00) = \text{\$5.60}$ as a bonus for the first game.

If you did not increase the value of your chips, you would not receive a bonus.

Your total bonus will be randomly selected from either the first or the second game.

The exact values will depend on your random chip valuations and your final holdings, so your payment may differ from this example.

This payment is in addition to the base payment for participating.

14. Transfer stage

Please wait on this page for up to 10 minutes as you are transferred to the next stage of this experiment. Thank you for your patience.

[When a transfer is initiated, the participant sees a pop-up dialog with the text:








You have been transferred to a new group!

- [Button] Decline the invitation (This will end the experiment.)
- [Button] Join the experiment (This will redirect you to the next part of the experiment.)

]

15. First negotiation game

[Chip trading interface as shown in screenshots in instructions above, as well as a side panel with chronological log of interactions, e.g.,


-  Badger is offering  2 red chips of their chips to get  4 green chips in return.
-  Deal made:  Badger 's offer was accepted by  Goose .
- Your turn ( Goose) to submit an offer!

]

16. Instructions for part 2

Congratulations!

You've successfully completed your first game! Now, it's time to play again with all the **same rules**. However, for this second round, please note the following changes:

- **New profile:** You will be playing as a new profile, and you will be playing against different animal profiles.
- **New chip values:** You will receive a different valuation for your red and blue chips. The value of the  green chip will remain the same for everyone (\$0.50).

All players participating in this round are also playing for their second time. **Enjoy the game!**








17. View secondary randomly generated profile

This identity is how other players will see you during the second game.

You will be playing as this randomly generated identity: [avatar and identity name]

18. Second negotiation game

[Chip trading interface as shown in screenshots in instructions above, as well as a side panel with chronological log of interactions, e.g.,

-  Badger is offering  2 red chips of their chips to get  4 green chips in return.
-  Deal made:  Badger 's offer was accepted by  Goose .
- Your turn ( Goose) to submit an offer!

]

19. Payout

Payout from [game 1 / game 2] (one game was randomly selected)

Chip payout

[red chip payout]  red chips ([final quantity] chips x [valuation])

[blue chip payout]  blue chips ([final quantity] chips x [valuation])

[green chip payout]  green chips ([final quantity] chips x \$0.5)

Initial chip value [correct answer]

Final chip value [correct answer]

Final payout (0 if negative) [correct answer]

Stage payout [total value]

Final payout [same total as stage payout]

20. Final survey

Please describe your strategy in the game in a few sentences.*

[Freeform text box]

Please describe any experiences or background that may have influenced your performance in the game.*

[Freeform text box]

On a scale from 1 to 10, how would you rate your trading strategy, where 1 is highly **competitive** (focused mainly on your own gains) and 10 is highly **collaborative** (focused on other players's potential gains and mutual benefits)?*

[Radio button scale of 1 to 10, where 1 is "Not at all aggressive" and 10 is "Very aggressive"]

On a scale from 1 to 10, how certain are you that you made the best possible trades during the experiment?*

[Radio button scale of 1 to 10, where 1 is "Not at all confident" and 10 is "Very confident"]

On a scale from 1 to 10, how satisfied are you with your final trading outcomes?*

[Radio button scale of 1 to 10, where 1 is "Not at all satisfied" and 10 is "Very satisfied"]

On a scale of 1 to 10, how would you rate the mental effort you put into today's trading games, where 1 means 'I barely engaged in any thinking' and 10 means 'I put in significant mental effort'?*

[Radio button scale of 1 to 10, where 1 is "No mental exertion at all" and 10 is "Very high mental exertion"]

Please provide any additional context on your answers above.*

[Freeform text box]

Please help us to improve this experiment. How was your experience today? Were there any elements of the instructions or gameplay that you found confusing?*

[Freeform text box]

Instructions for 4 chip variant

1. Terms of Service

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Compensation

You will be paid a base amount for playing the games and completing the survey. You may receive an additional bonus on your performance in the games.

IRB

The results of this study will be used solely for research purposes. Our team will keep all your information from this study strictly confidential, as required by law. The IRB at the XXXXXX is responsible for protecting the rights and welfare of research volunteers like you.

Voluntary participation

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Contact

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By checking the box below and proceeding, you are acknowledging that you are over the age of 18 and that you consent to participate. Clicking the arrow will bring you to the beginning of the task.

[Checkbox for "I accept the Terms of Service"]





2. View randomly generated profile

This identity is how other players will see you during today's experiment.

You will be playing as this randomly generated identity: [avatar and identity name]

3. Instructions: overview

In this experiment, you will be playing a trading game with other participants.




All of you will be given the same initial number of  red chips,  green chips,  blue chips, and  purple chips but you may value the different colors of chips differently.

By making and accepting offers, you can exchange chips with the other players to increase the total value of your chips.


You may receive a bonus payment depending on the value of your chips at the end of the game.







4. Instructions: chip valuations 1

You will play this trading game two times against two different groups of participants. In each game, you and the other participants will start with:

-  10 red chips
-  10 green chips
-  10 blue chips
-  10 purple chips



Valuations:



Each  green chip is worth \$0.50 to each participant. However, you will all have different valuations for the red, blue, and purple chips, randomly chosen between \$0.10 and \$1.00.


For example, Cat might value  red chips at \$0.30 each,  blue chips at \$0.70 each, and  purple chips at \$0.50 each, while Mouse might value  red chips at \$0.80 each,  blue chips at \$0.30 each, and  purple chips at \$0.60 each.

What this means:


Because each participant values the chips differently, there may be good reason to trade.


For instance, if you don't care much about  red chips but someone else does, you might offer your red chips to them in exchange for  green chips, which you like more.

Similarly, you might trade  blue chips with another participant if they value them more than you do. The same goes for  purple chips, depending on your valuation of them compared to the other participants.

You know your own chip valuation and that everyone values  green chips the same, at \$0.50 per chip. However, you do not know the other players' valuations for the other chips.

Participant Knowledge of Others' Valuations:

You know your own chip valuation and that everyone values  green chips the same, at \$0.50 per chip.

However, you do not know the other players' valuations for the other chips, and they do not know your valuations (besides  green chips).

5. Instructions: chip valuations 2

The following table is shown to you during the game. It provides the number of chips everyone has as well as a reminder of your own valuations.

Chip counts

*This table shows how many chips all participants currently have.
Participants are ordered by the order in which they will make offers.*

participant	 red (\$0.09 for you)	 blue (\$0.02 for you)	 green (\$0.05 for all)
 Dog (you)	10	10	10
 Cat	10	10	10
 Mouse	10	10	10
Initial total			\$1.60
Current total			\$1.60
Current payout (0 if negative)			\$0.00

6. Comprehension check

Please answer the following questions to verify your understanding of the instructions.
You may proceed once you have answered the questions correctly.


How many  red chips will you start with?

- 5
- 10
- 8
- 15

How many  green chips will each other player start with?

- 20
- 5

- 50
- 10

True or false: you and the other players will always value  green chips at the same amount, \$0.50 per chip.

- True
- False

True or false: you and the other players will always value NON-green chips at the same amount, \$0.50 per chip.

- True
- False

7. Gameplay: rounds

How the game works

The game consists of **3 rounds** of trading. During each round, each player will have a turn to propose **1 trade**. These turns are pre-determined in a random order.



8. Gameplay: proposing a trade

Trade proposals





To propose a trade, a player must:

5. Request a certain quantity of chips of a single color from any other player to get.
6. Specify a certain quantity of chips of a different color to give in return.


🌟 One tip

As a reminder, you can **always** make a beneficial offer as long as you have one chip left. For example, if you have one  red chip remaining, you can offer to **give** it and get 10  green chips in return for a profit. However, it is unlikely that someone will take you up on this offer. Please consider the tradeoffs. 😊

Trade rules

- Players cannot offer more chips than they currently hold. For example, if you only have 5  red chips, you cannot offer 6  red chips.
- Players cannot trade chips of the same color. For example, you cannot trade  red chips for  red chips.

👉 It's your turn! Make an offer to the other participants.

You give:  red ▼

You get:  green ▼

If this offer is accepted, your updated payout will be **\$1.10 (-0.50)**.

Submit offer




9. Gameplay: completing a trade

Trade completion

When an offer is presented, all other active participants get a chance to accept or decline.

Note: Active participants are those not currently making the offer.

Incoming offer!

 Dog is offering to give  **10 red chips** to get  **8 green chips** in return.

If you accept this offer, your updated chip value will be **\$2.20 (+0.20)**.

Accept offer

Reject offer

Participants make their decisions simultaneously and privately. The participant who receives the offer is not dependent on who accepts the trade first. Some possible outcomes:

- If no one accepts, the trade does not happen, and the turn ends.
- If multiple participants accept, one accepting participant is *chosen at random* to complete the trade with the offering participant. This means that the participant proposing the trade cannot choose who they trade with.
- If only one participant accepts, the trade will happen.

10. Gameplay: summary

Key points to remember

- In each round, each player gets to propose one trade and respond to other player's trades.
- You can only propose trades between different colored chips, and cannot offer to give a chip amount that you do not have.
- When multiple players accept a trade, the trading partner is randomly selected.

Feel free to click back to previous sections to review the instructions.









11. Comprehension check 2

Please answer the following questions to verify your understanding of the instructions. You may proceed once you have answered the questions correctly.

True or false: A player can propose multiple trades during their turn in a round.

- True
- False

Which of the following trades is NOT allowed?



- Trading  3 red chips for  2 green chips
- Trading  4 green chips for  4 red chips
- Trading  2 red chips for  4 red chips
- Trading  5 green chips for  3 red chips

True or false: The number of chips offered must equal the number of chips requested.

- True
- False

True or False: Players who accept a trade proposal do not know at the time of accepting the proposal whether they will be the one chosen to complete the trade.

- True
- False

Say that a player proposes trading  3 red chips for  4 green chips. Who can accept this trade?

- Any player with 4 or more green chips
- Only players with exactly 4 green chips
- Only the player with the most green chips
- Any player with any number of green chips

12. Payment information

Bonus payment

At the end of the study, we will randomly pick **one** of the two negotiation games you played and give you a bonus payment from that game.

There are two important features to remember about the bonus:

- The bonus will be equivalent to how much money you earn through trading *beyond* what you start with.
- If you do not complete both games, you will not receive a bonus payment.





In short, you want to make as much money as you can through trading!

13. Payment information examples

Bonus payment example calculation

Suppose that for the first game, you started with 10 chips of each color, worth $(10 * 0.30 + 10 * 0.50 + 10 * 0.70 + 10 * 0.40) = \text{\$19.00}$.

At the end of that game, you have:

-  8 red chips valued at \$0.30 each
-  7 green chips valued at \$0.50 each
-  21 blue chips valued at \$0.70 each
-  5 purple chips valued at \$0.40 each

You would receive $(\$22.60 - \$19.00) = \text{\$3.60}$ as a bonus for the first game.

If you did not increase the value of your chips, you would not receive a bonus.

Your total bonus will be randomly selected from either the first or the second game.

The exact values will depend on your random chip valuations and your final holdings, so your payment may differ from this example.

This payment is in addition to the base payment for participating.

14. Transfer stage

Please wait on this page for up to 10 minutes as you are transferred to the next stage of this experiment. Thank you for your patience.

[When a transfer is initiated, the participant sees a pop-up dialog with the text:








You have been transferred to a new group!

- [Button] Decline the invitation (This will end the experiment.)
- [Button] Join the experiment (This will redirect you to the next part of the experiment.)

]

15. First negotiation game

[Chip trading interface as shown in screenshots in instructions above, as well as a side panel with chronological log of interactions, e.g.,


-  Badger is offering  2 red chips of their chips to get  4 green chips in return.
-  Deal made:  Badger 's offer was accepted by  Goose .
- Your turn ( Goose) to submit an offer!

]

16. Instructions for part 2

Congratulations!

You've successfully completed your first game! Now, it's time to play again with all the **same rules**. However, for this second round, please note the following changes:

- **New profile:** You will be playing as a new profile, and you will be playing against different animal profiles.
- **New chip values:** You will receive a different valuation for your red and blue chips. The value of the  green chip will remain the same for everyone (\$0.50).

All players participating in this round are also playing for their second time. **Enjoy the game!**








17. View secondary randomly generated profile

This identity is how other players will see you during the second game.

You will be playing as this randomly generated identity: [avatar and identity name]

18. Second negotiation game

[Chip trading interface as shown in screenshots in instructions above, as well as a side panel with chronological log of interactions, e.g.,

-  Badger is offering  2 red chips of their chips to get  4 green chips in return.
-  Deal made:  Badger 's offer was accepted by  Goose .
- Your turn ( Goose) to submit an offer!

]

19. Payout

Payout from [game 1 / game 2] (one game was randomly selected)

Chip payout

[red chip payout]  red chips ([final quantity] chips x [valuation])

[blue chip payout]  blue chips ([final quantity] chips x [valuation])

[purple chip payout]  purple chips ([final quantity] chips x [valuation])

[green chip payout]  green chips ([final quantity] chips x \$0.5)

Initial chip value [correct answer]

Final chip value [correct answer]

Final payout (0 if negative) [correct answer]

Stage payout [total value]

Final payout [same total as stage payout]

20. Final survey

Please describe your strategy in the game in a few sentences.*

[Freeform text box]

Please describe any experiences or background that may have influenced your performance in the game.*

[Freeform text box]

On a scale from 1 to 10, how would you rate your trading strategy, where 1 is highly **competitive** (focused mainly on your own gains) and 10 is highly **collaborative** (focused on other players's potential gains and mutual benefits)?*

[Radio button scale of 1 to 10, where 1 is "Not at all aggressive" and 10 is "Very aggressive"]

On a scale from 1 to 10, how certain are you that you made the best possible trades during the experiment?*

[Radio button scale of 1 to 10, where 1 is "Not at all confident" and 10 is "Very confident"]

On a scale from 1 to 10, how satisfied are you with your final trading outcomes?*

[Radio button scale of 1 to 10, where 1 is "Not at all satisfied" and 10 is "Very satisfied"]

On a scale of 1 to 10, how would you rate the mental effort you put into today's trading games, where 1 means 'I barely engaged in any thinking' and 10 means 'I put in significant mental effort'?*

[Radio button scale of 1 to 10, where 1 is "No mental exertion at all" and 10 is "Very high mental exertion"]

Please provide any additional context on your answers above.*

[Freeform text box]

Please help us to improve this experiment. How was your experience today? Were there any elements of the instructions or gameplay that you found confusing?*

[Freeform text box]