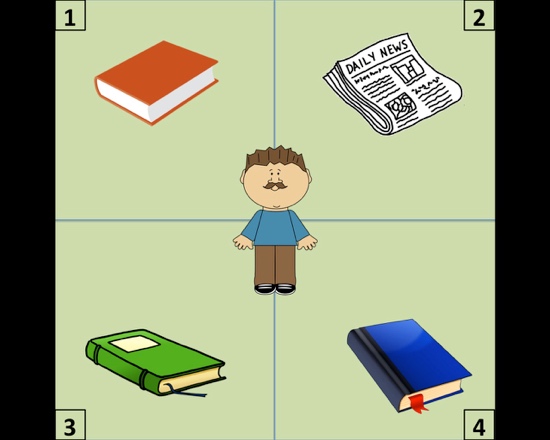
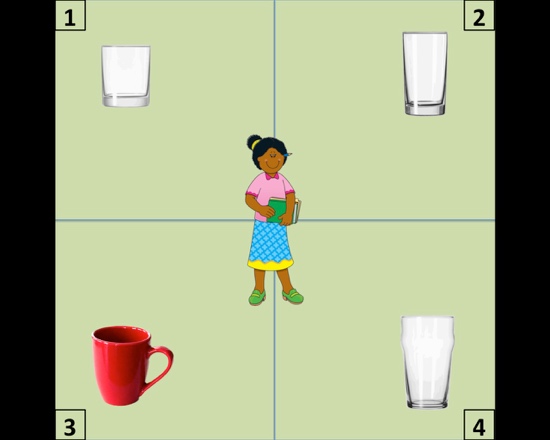
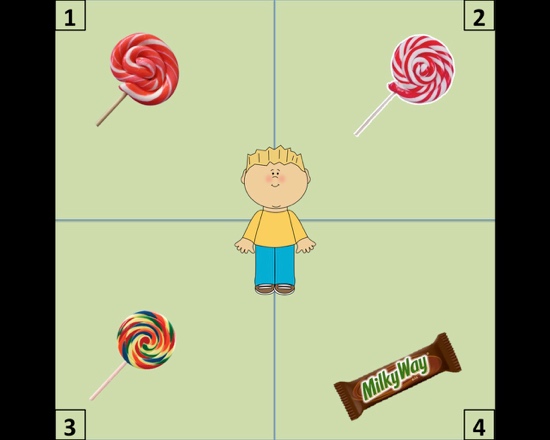
Online supplementary materials

Critical items for Experiment 1

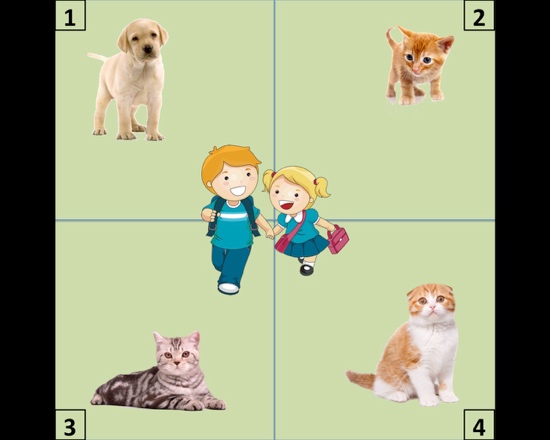
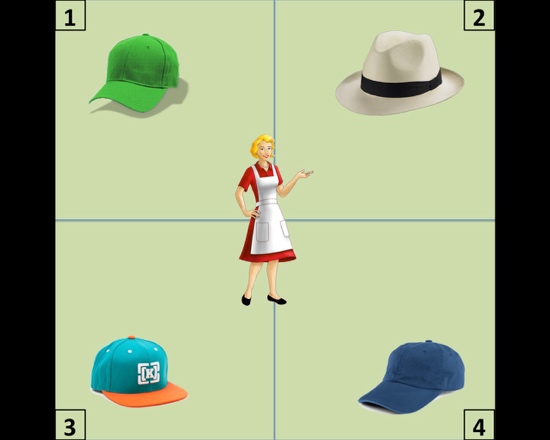
A close up of a flower

Description automatically generated 

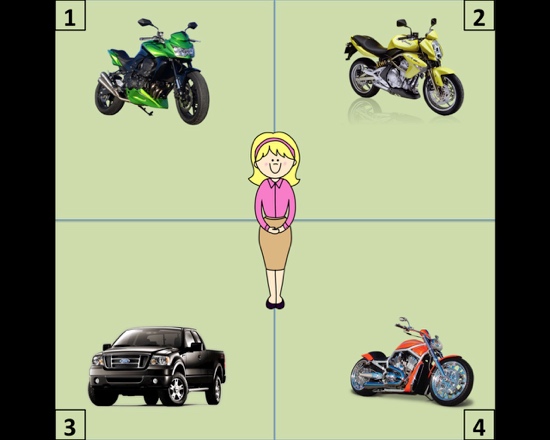
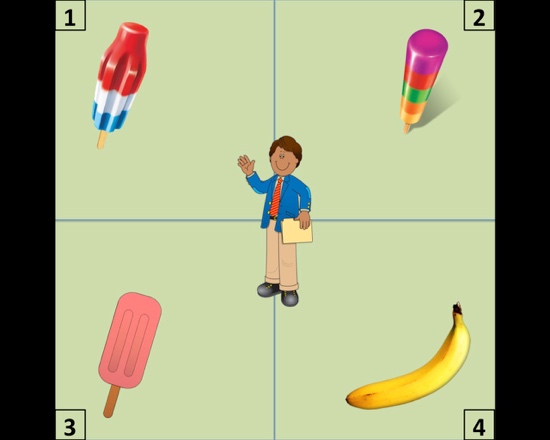
1. The painter will want to draw the/a… 2. The man will read the/a…

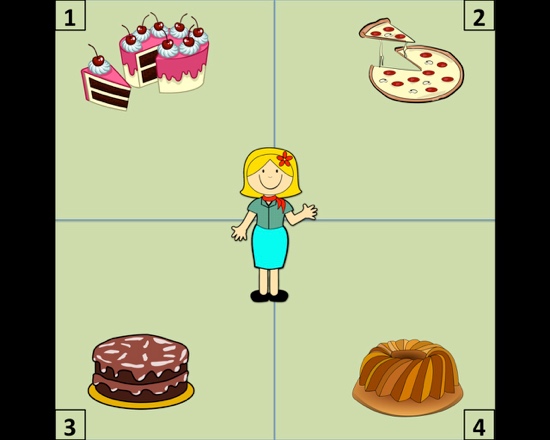
3. The woman will buy the/a… 4. The child will eat the/a…

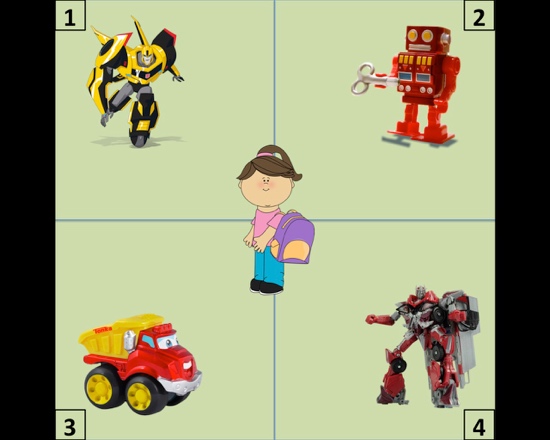
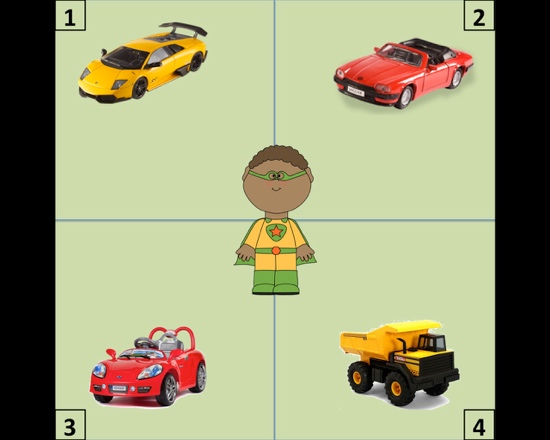
5. The children will buy the/a… 6. The lady will choose the/a…

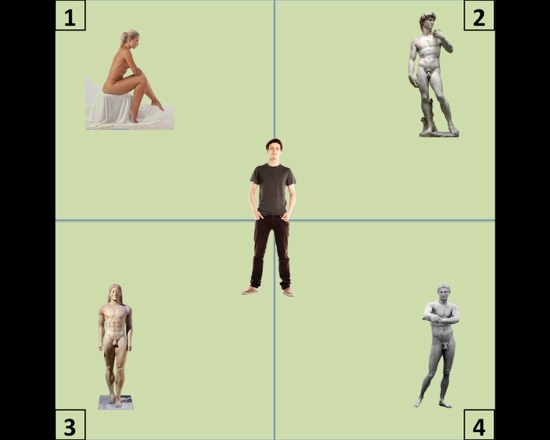
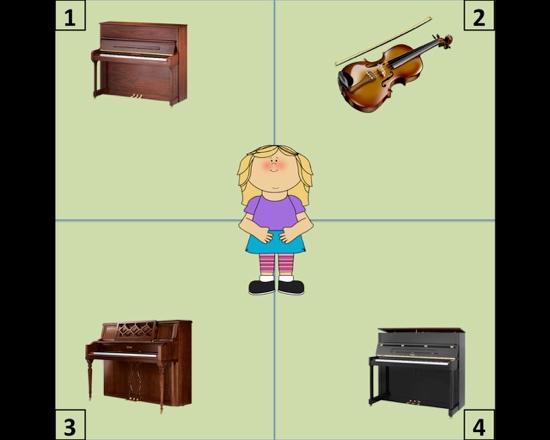
7. The woman will test−drive the/a… 8. The man will taste the/a…

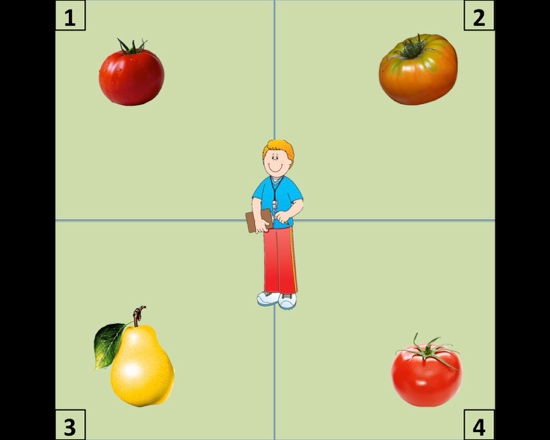
9. The soldier will photograph the/a… 10. The customer will order the/a…

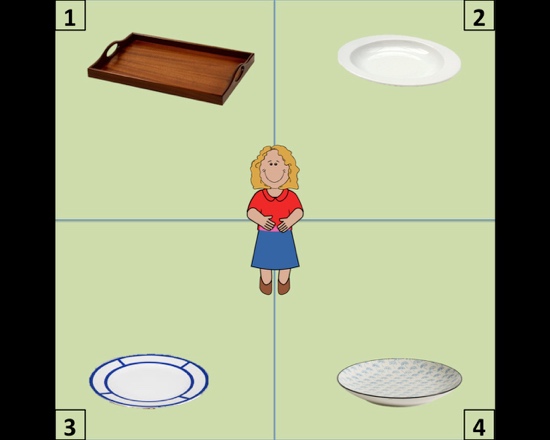
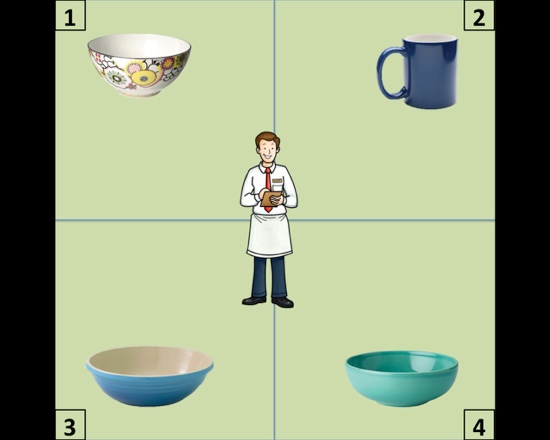
11. The girl will select the/a… 12. The boy will purchase the/a…

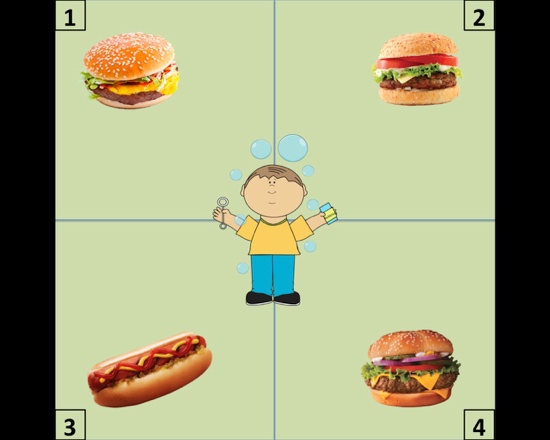
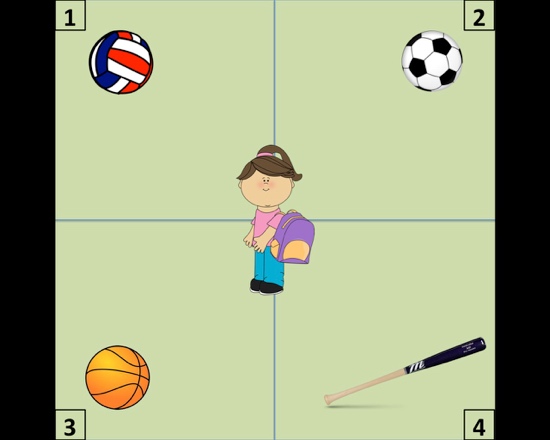
13. The painter will paint the/a… 14. The kid will try the/a…

15. The man will throw the/a… 16. The woman will toss the/a…

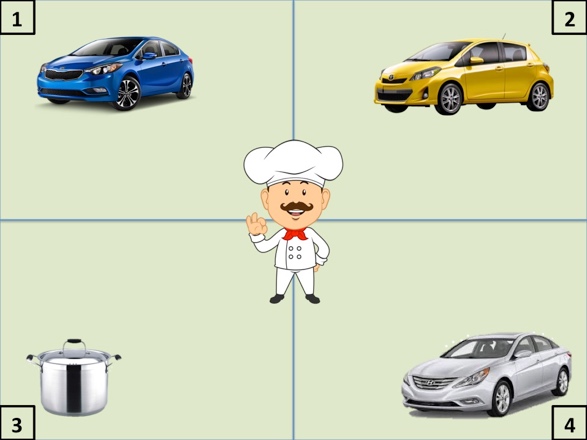
 

17. The lady will carry the/a… 18. The guy will wash the/a…

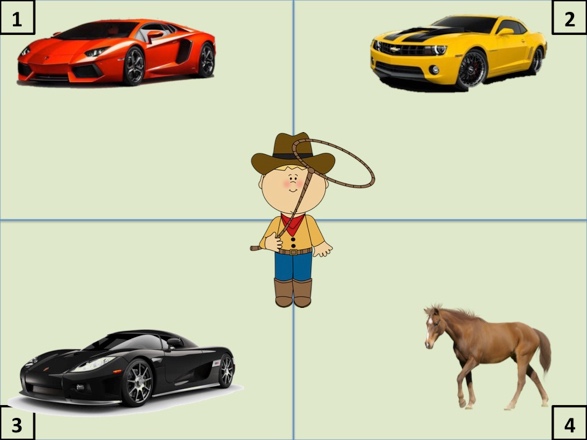
19. The boy will take the/a… 20. The girl will pick the/a…

Critical items for Experiment 2

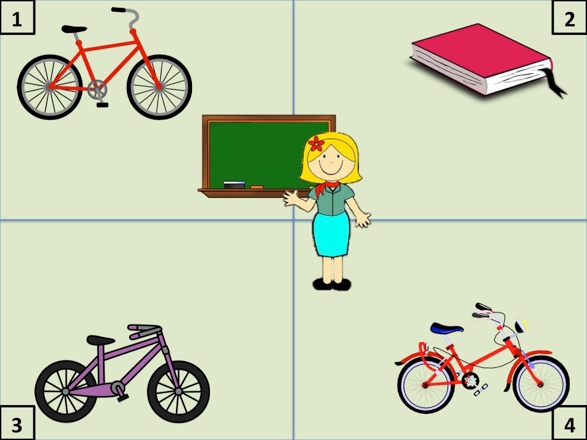
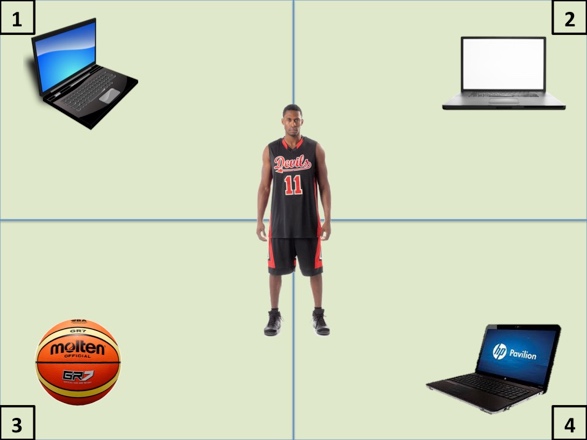
1. The baby wants to get the/a pacifier 2. The cook will probably buy the/a pot

Barbie doll car

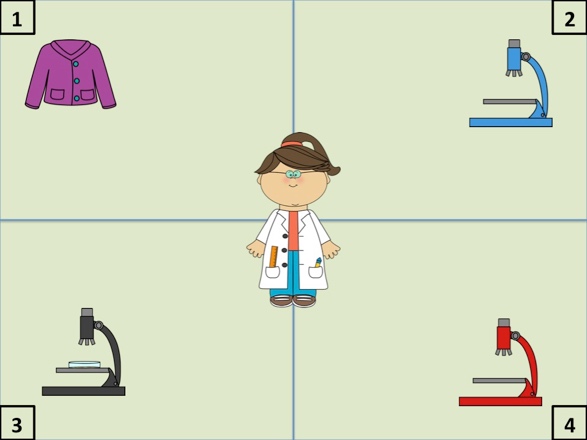
3. The boy will want to ride the/a horse 4. The man will want to use the/a stethoscope

car laptop

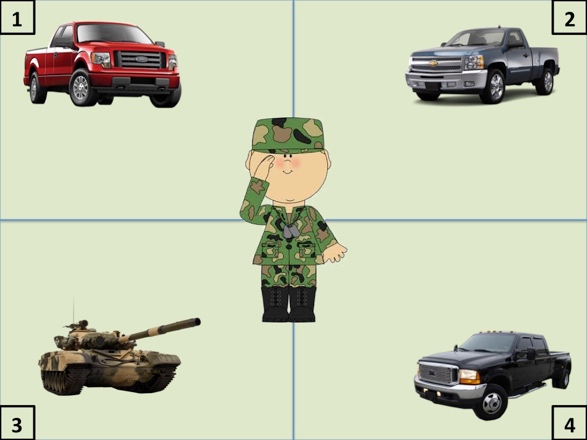
5. She will probably want the/a book 6. The man will probably want the/a basketball

bike computer

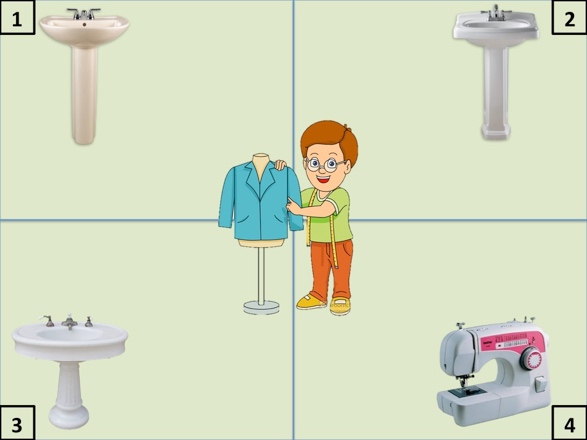
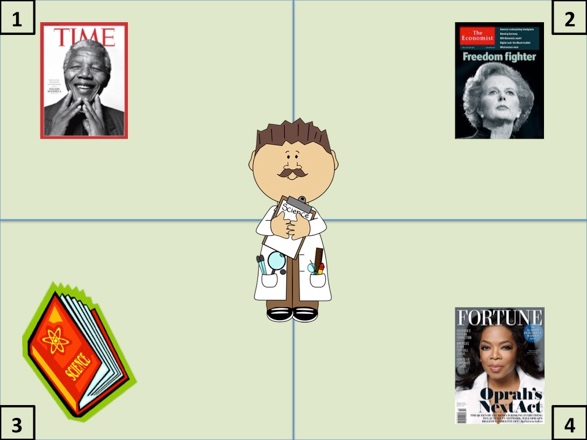
7. The woman will want to purchase the/a suitcase 8. She will want to get the/a microscope

mug sweater

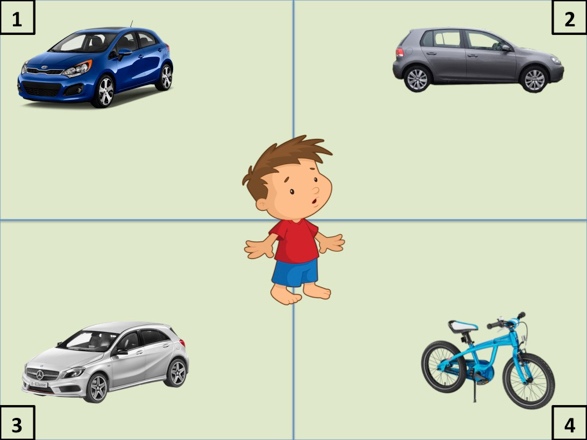
9. The man will want to ride the/a motorcycle 10. He will want to ride the/a tank

bicycle truck

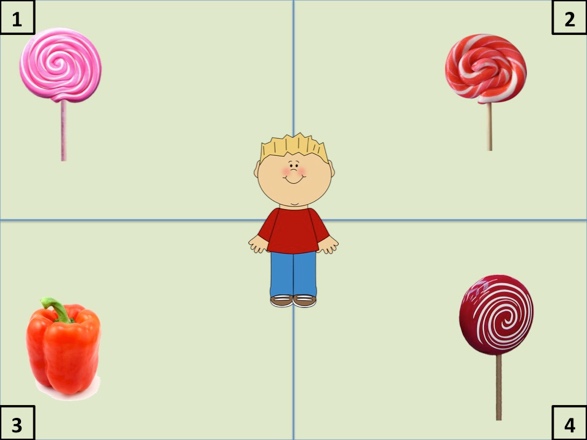
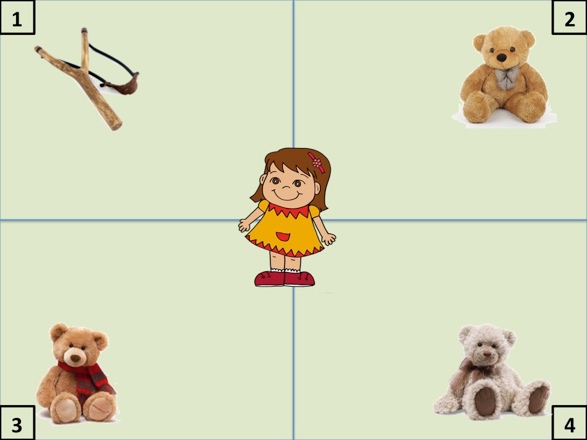
11. The man will want to repair the/a sawing machine 12. He will want to read the/a science book

bathroom sink magazine

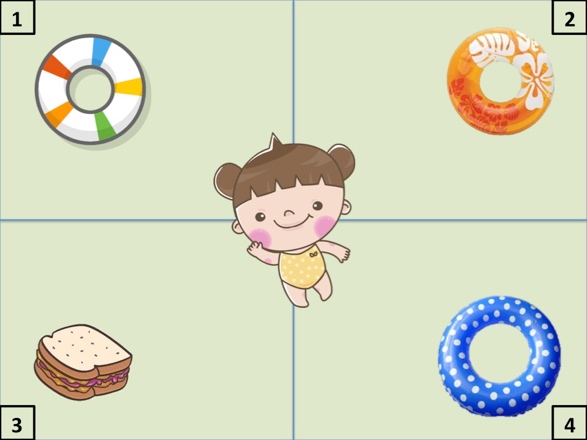
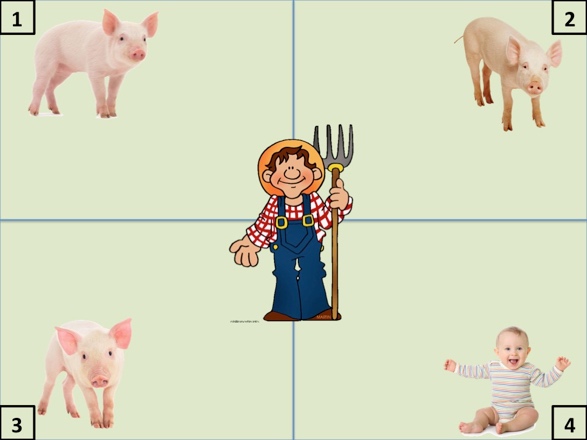
13. She will probably want the/a handbag 14. The boy will want to ride the/a bike

briefcase car

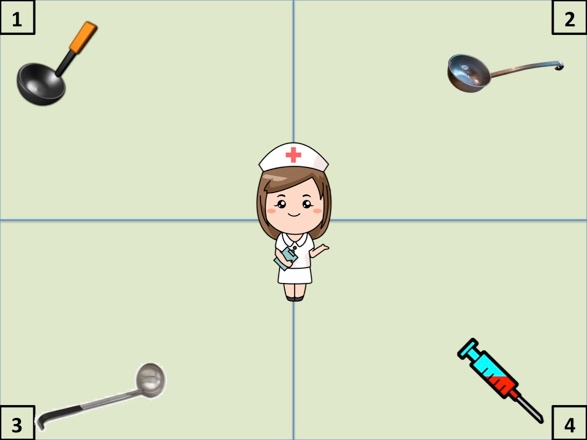
15. The child wants to taste the/a lollipop 16. The girl will want to get the/a teddy bear

bell pepper slingshot

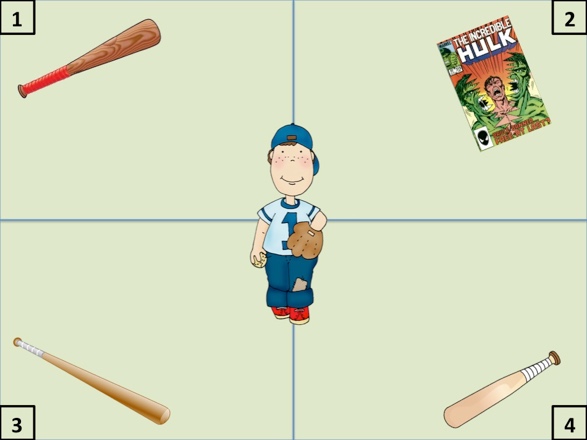
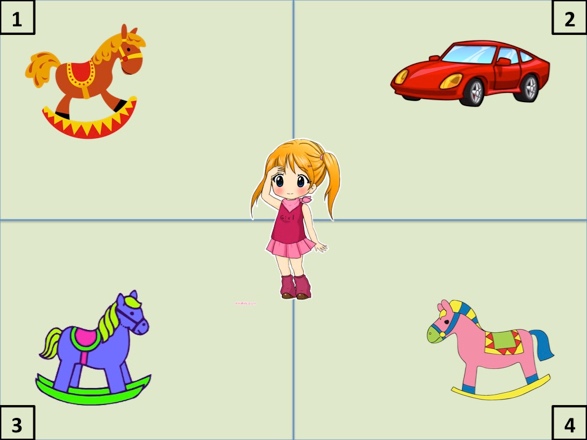
17. The girl will probably want the/a inner tube 18. The man will probably feed the/a pig

sandwich baby

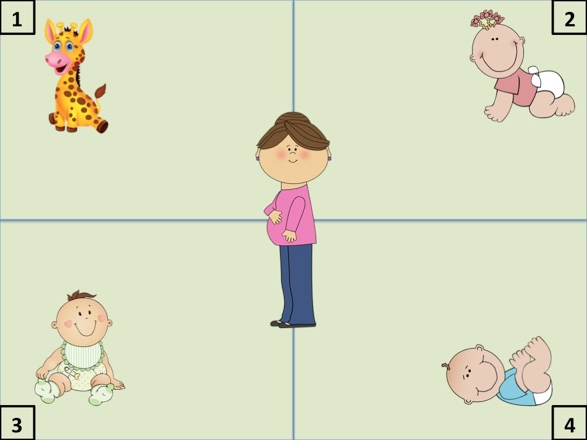
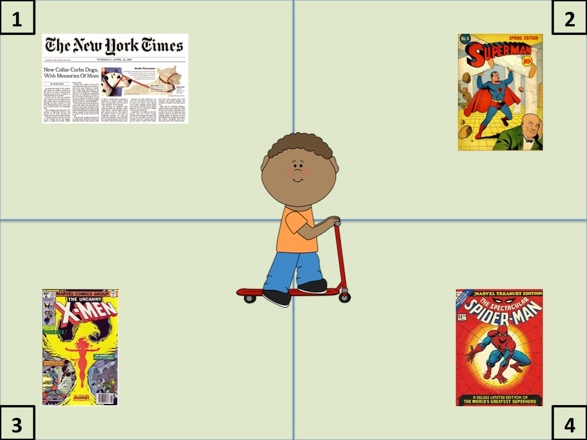
19. The man will want to get the/a hammer 20. She will want to use the/a syringe

ball ladle

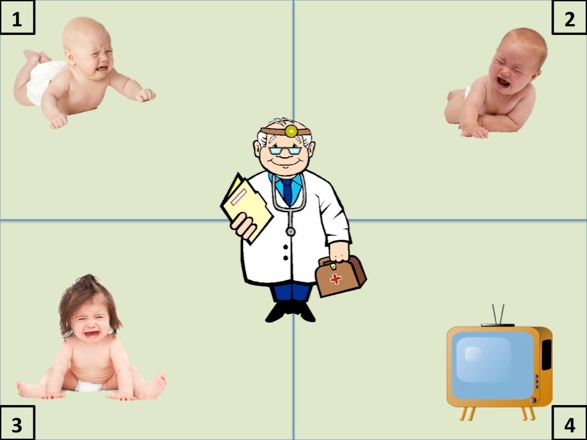
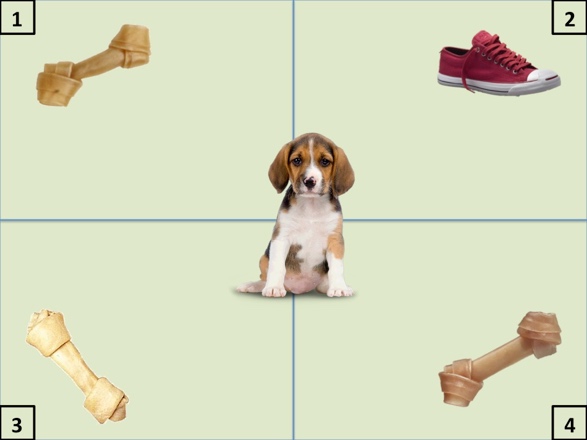
21. The boy will want to get the/a baseball bat 22. The girl will want to ride the/a horse

comic book car

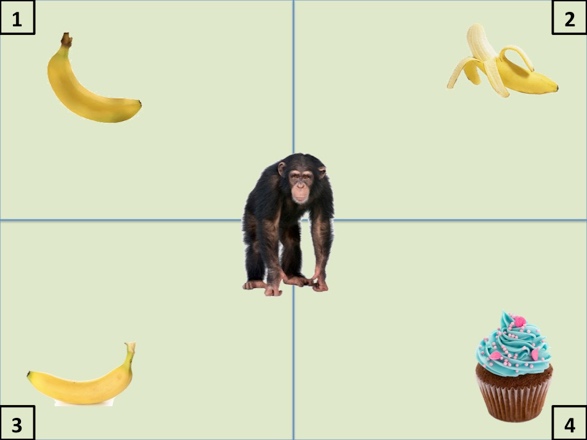
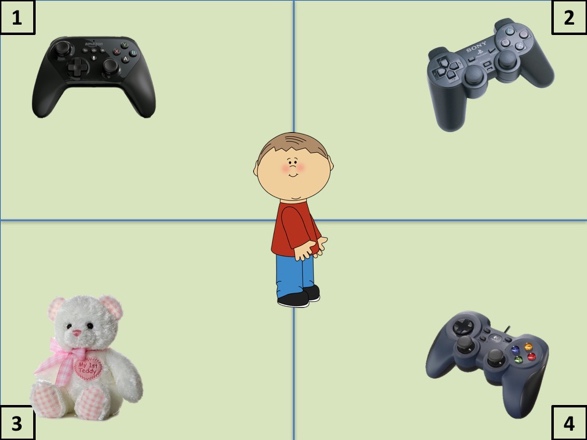
23. She will feed the/a baby 24. He will want to read the/a comic book

giraffe newspaper

25. The man will examine the/a baby 26. The puppy will want to chew on the/a bone

TV shoe

27. The chimpanzee will want to eat the/a banana 28. The child will want to play with the/a Gameboy

cupcake teddy bear

Additional Statistics

Table S1. With article – L1

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fixed Effects | | | | | | | | | | | | | | | | | |
|  | | Estimate | | SE | | Lower CI | | | Upper CI | | | t value | | Pr(>|t|) | |  |
| (Intercept) | | −0.102 | | 0.052 | | −0.205 | | 0.000 | | | −1.963 | | 0.060 | | . | | |
| EG | | 0.047 | | 0.050 | | −0.052 | | 0.145 | | | 0.928 | | 0.354 | |  | | |
| PW | | 0.234 | | 0.084 | | 0.070 | | 0.399 | | | 2.798 | | 0.009 | | \*\* | | |
| article | | −0.033 | | 0.050 | | −0.131 | | 0.066 | | | −0.647 | | 0.518 | |  | | |
| EG:PW | | −0.213 | | 0.101 | | −0.410 | | −0.016 | | | −2.121 | | 0.034 | | \* | | |
| EG:article | | −0.098 | | 0.199 | | −0.489 | | 0.292 | | | −0.493 | | 0.626 | |  | | |
| PW:article | | −0.043 | | 0.101 | | −0.240 | | 0.154 | | | −0.432 | | 0.666 | |  | | |
| EG:PW:article | | −0.413 | | 0.304 | | −1.009 | | 0.184 | | | −1.355 | | 0.187 | |  | | |
| Random effects: | | | | | | | | | |
| Groups | Name | | Variance | | Std.Dev | | Corr | | |
| Subject | (Intercept) | | 0.009 | | 0.094 | |  | | |
|  | PW | | 0.044 | | 0.209 | | 0.3 | | |
| item | (Intercept) | | 0.052 | | 0.228 | |  | | |
|  | PW | | 0.092 | | 0.304 | | −0.71 | | |
| Residual |  | | 0.568 | | 0.754 | |  | | |

Table S2. With article – L2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Fixed Effects | | | | | | |  |
|  | Estimate | SE | Lower CI | Upper CI | t value | Pr(>|t|) |  |
| (Intercept) | -0.062 | 0.059 | -0.178 | 0.054 | -1.049 | 0.303 |  |
| EG | -0.091 | 0.041 | -0.171 | -0.011 | -2.235 | 0.034 | \* |
| PW | 0.147 | 0.039 | 0.072 | 0.223 | 3.811 | 0.000 | \*\*\* |
| article | -0.061 | 0.041 | -0.141 | 0.018 | -1.506 | 0.144 |  |
| EG:PW | -0.069 | 0.078 | -0.221 | 0.083 | -0.892 | 0.372 |  |
| EG:article | 0.081 | 0.232 | -0.373 | 0.534 | 0.348 | 0.731 |  |
| PW: article | -0.023 | 0.078 | -0.175 | 0.130 | -0.293 | 0.770 |  |
| EG:PW:article | -0.177 | 0.155 | -0.480 | 0.125 | -1.149 | 0.251 |  |
| Random Effects | | | | |  |  |  |
| Groups | Name | Variance | Std.Dev. | Corr |  |  |  |
| Subject | (Intercept) | 0.006 | 0.079 |  |  |  |  |
| item | (Intercept) | 0.083 | 0.289 |  |  |  |  |
|  | agk1 | 0.004 | 0.063 | -0.11 |  |  |  |
| Residual |  | 0.424 | 0.651 |  |  |  |  |

Table S3. Pairwise Comparisons between Conditions in Experiment 2 – L1 Speakers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Unique Target Referent | | | | | estimate | SE | t.ratio | p.value |
| the | stethoscope | vs. | a | stethoscope | −0.142 | 0.105 | −1.361 | 0.524 |
| the | stethoscope | vs. | the | laptop | −0.260 | 0.135 | −1.928 | 0.228 |
| the | stethoscope | vs. | a | laptop | −0.145 | 0.136 | −1.073 | 0.707 |
| a | stethoscope | vs. | the | laptop | −0.117 | 0.134 | −0.873 | 0.819 |
| a | stethoscope | vs. | a | laptop | −0.003 | 0.135 | −0.022 | 1 |
| the | laptop | vs. | a | laptop | 0.114 | 0.100 | 1.146 | 0.661 |
| Non-unique Target Referents | | | | | estimate | SE | t.ratio | p.value |
| a | hammer | vs. | the | hammer | −0.164 | 0.098 | −1.668 | 0.341 |
| **a** | **hammer** | **vs.** | **a** | **soccer ball** | **−0.423** | **0.133** | **−3.175** | **0.013** |
| **a** | **hammer** | **vs.** | **the** | **soccer ball** | **−0.417** | **0.133** | **−3.144** | **0.014** |
| the | hammer | vs. | a | soccer ball | −0.259 | 0.133 | −1.945 | 0.222 |
| the | hammer | vs. | the | soccer ball | −0.253 | 0.132 | −1.909 | 0.237 |
| a | soccer ball | vs. | the | soccer ball | 0.006 | 0.101 | 0.057 | 1.000 |

Table S4. Pairwise Comparisons between Conditions in Experiment 2 – Advanced L2 Speakers

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Unique Target Referent | | | | | estimate | SE | t.ratio | p.value |
| the | stethoscope | vs. | a | stethoscope | 0.106 | 0.082 | 1.289 | 0.572 |
| the | stethoscope | vs. | the | laptop | −0.149 | 0.078 | −1.904 | 0.227 |
| the | stethoscope | vs. | a | laptop | 0.049 | 0.081 | 0.610 | 0.929 |
| **a** | **stethoscope** | **vs.** | **the** | **laptop** | **−0.255** | **0.080** | **−3.183** | **0.011** |
| a | stethoscope | vs. | a | laptop | −0.057 | 0.079 | −0.719 | 0.890 |
| the | laptop | vs. | a | laptop | 0.198 | 0.079 | 2.510 | **0.065** |
| Non-unique Target Referents | | | | | estimate | SE | t.ratio | p.value |
| a | hammer | vs. | the | hammer | 0.007 | 0.079 | 0.083 | 1 |
| **a** | **hammer** | **vs.** | **a** | **soccer ball** | **−0.215** | **0.076** | **−2.819** | **0.025** |
| a | hammer | vs. | the | soccer ball | −0.162 | 0.078 | −2.074 | 0.170 |
| **the** | **hammer** | **vs.** | **a** | **soccer ball** | **−0.221** | **0.079** | **−2.817** | **0.030** |
| the | hammer | vs. | the | soccer ball | −0.168 | 0.077 | −2.196 | 0.125 |
| a | soccer ball | vs. | the | soccer ball | 0.053 | 0.078 | 0.676 | 0.906 |