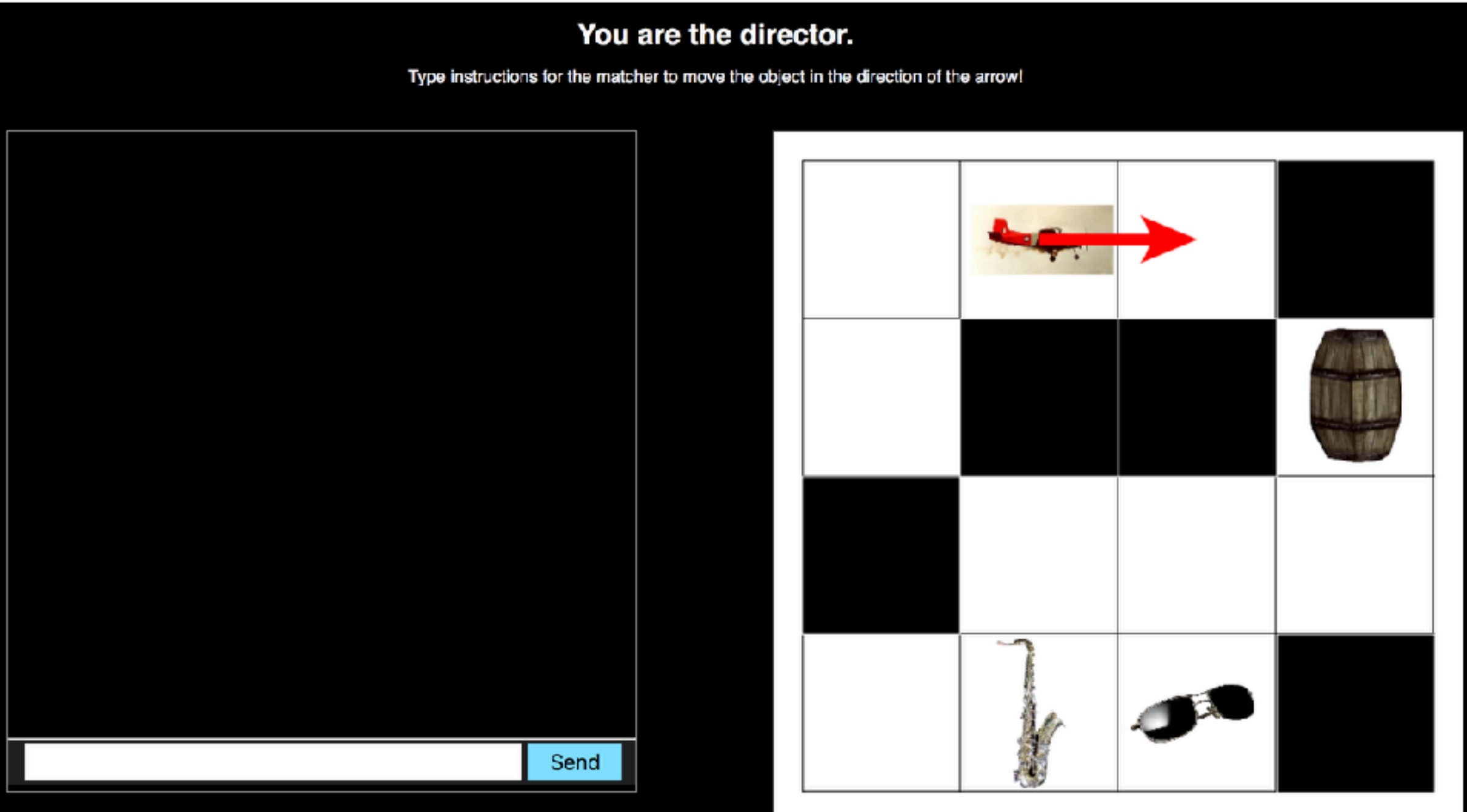
Exp. 1:
Direct manipulation

https://rxdhawkins.me:8888/experiment1/index.html



Some questions…

- allow a brief period of free chatting at beginning (e.g. some conversation prompt?)
  - include a visual of the other player to make perspective difference clearer (cartoon like exp. 3?)
- make occlusion less weird looking
  - some people assumed the black squares were 'blocked' and didn't want to move object there in piloting

Some questions…

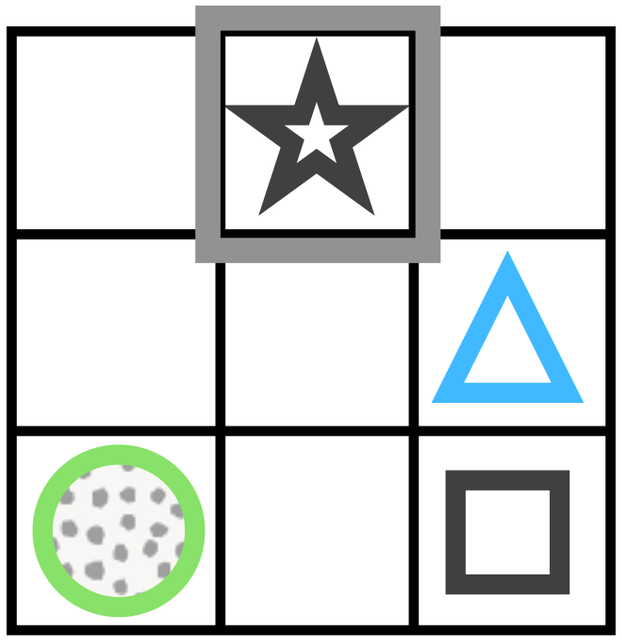
- reconsider choice of object images (e.g. crop better?)
- reconsider when typing should be allowed and when message should be shown
  - 'click the center to reveal the message' so that mouse movements are more meaningful?
- reconsider wording of scripted instructions (sure about ‘left’, ‘right’, ‘up’, 'down' axes?)
  - maybe after partner makes error on scripted, allow free use of chatbox?
  - left/right are slightly weird if they think they’re sitting on opposite sides?

Exp. 2:
Speaker manipulation

Shape sufficient

Modifier required

Common



+Hidden

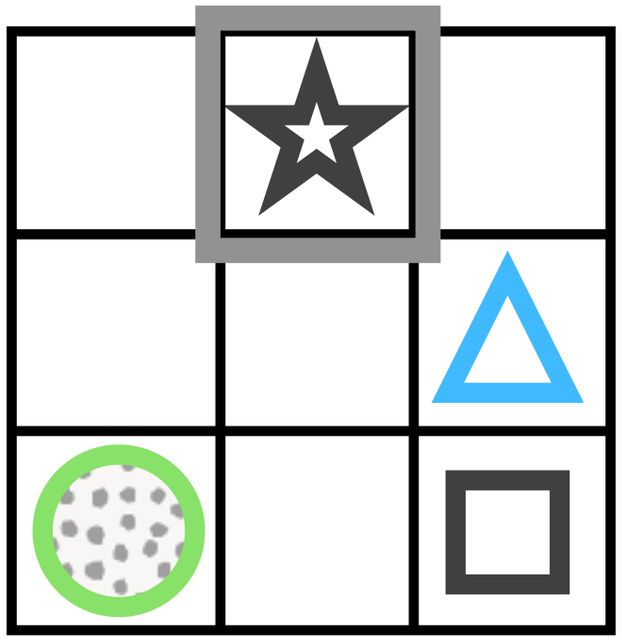
Shape sufficient

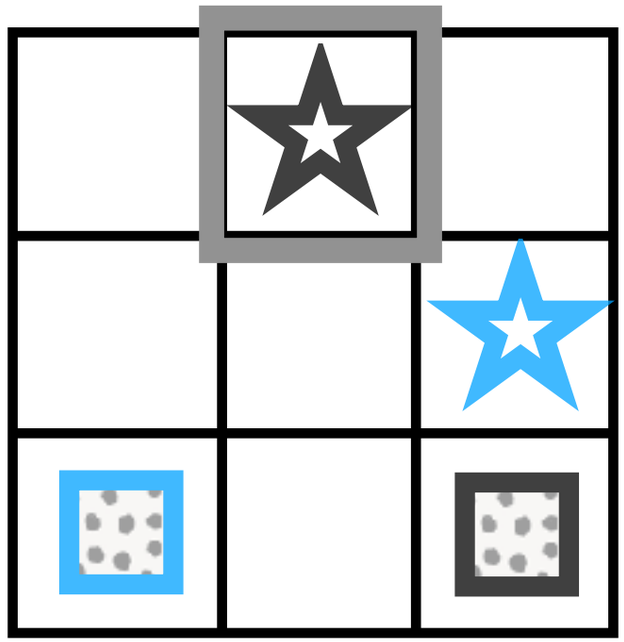
Modifier required

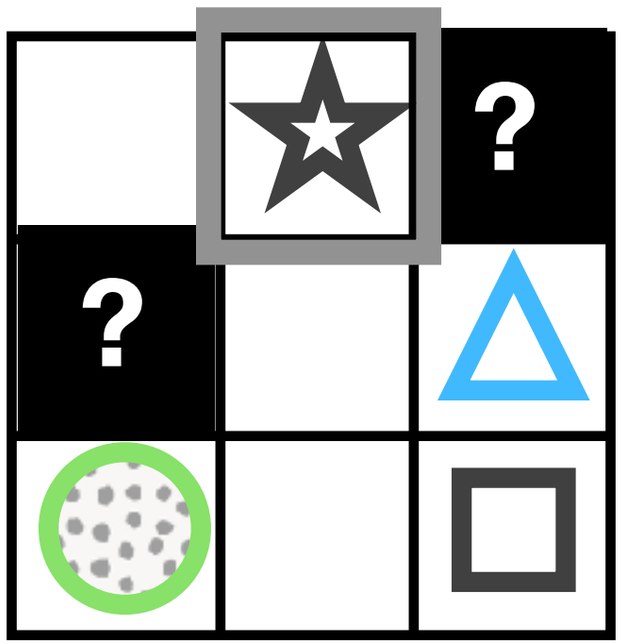
Common

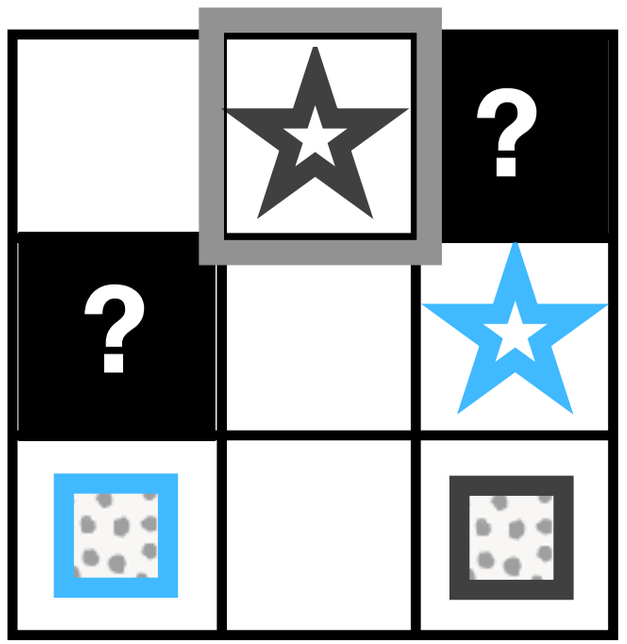
*

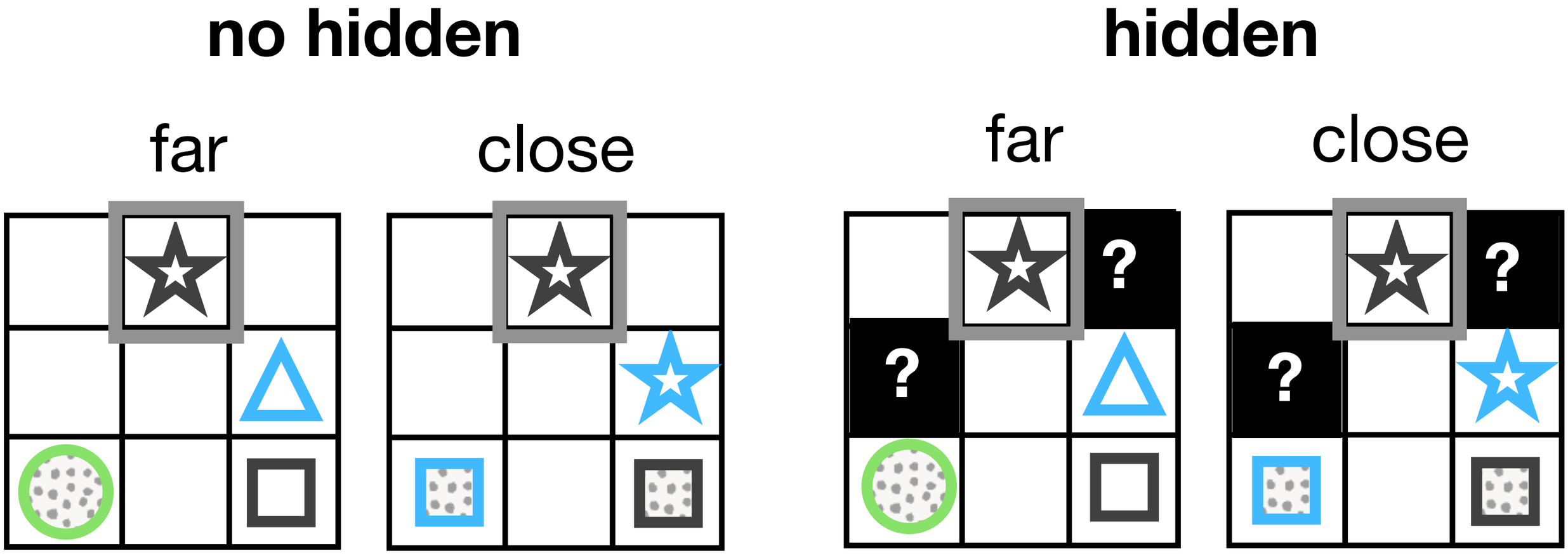
+Hidden









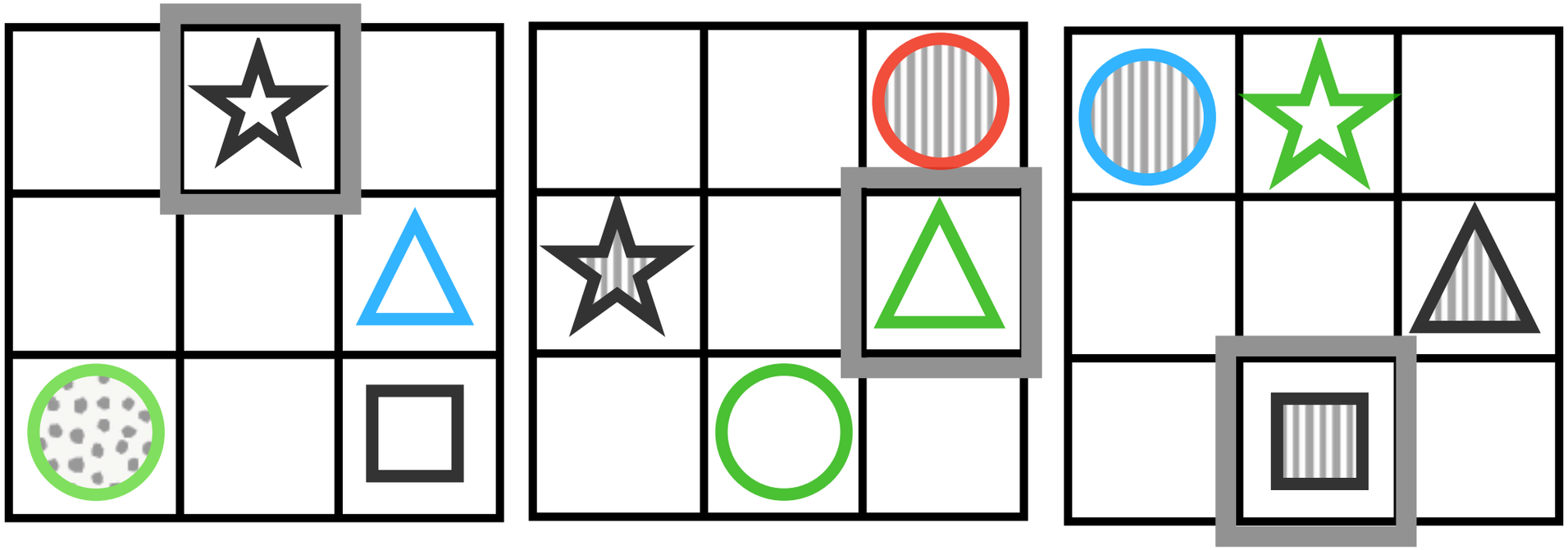

no hidden
hidden
far
close
far
close
?
?
?
?

Director’s View

Matcher’s View

For ‘bare noun sufficient’ trials…

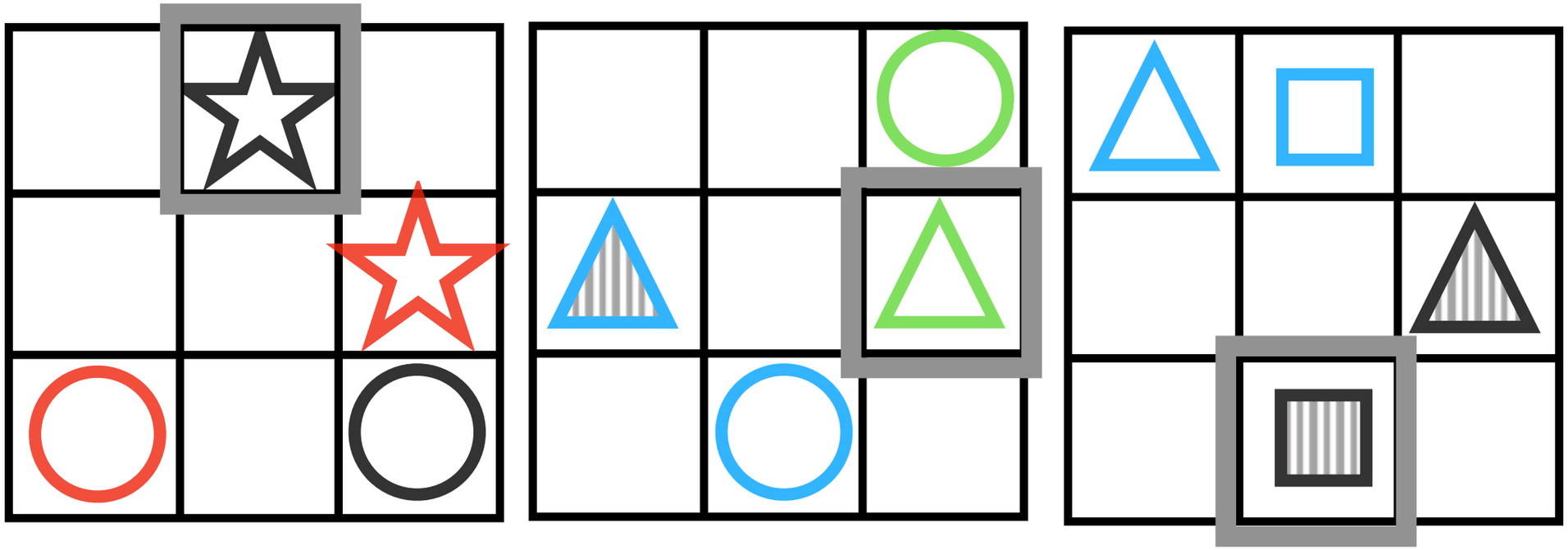
- Sample target shape & k distractors with different shapes from target
- Sample level of each feature dimension (e.g. ‘blue’, ‘striped’, ‘big’)
- Assign this feature set to target and 1-2 other objects and randomize the rest (want there to be variability in fillers)



Hypothesis: on these trials, participants should have a **low** rate of producing modifiers

For ‘modifier required’ trials…

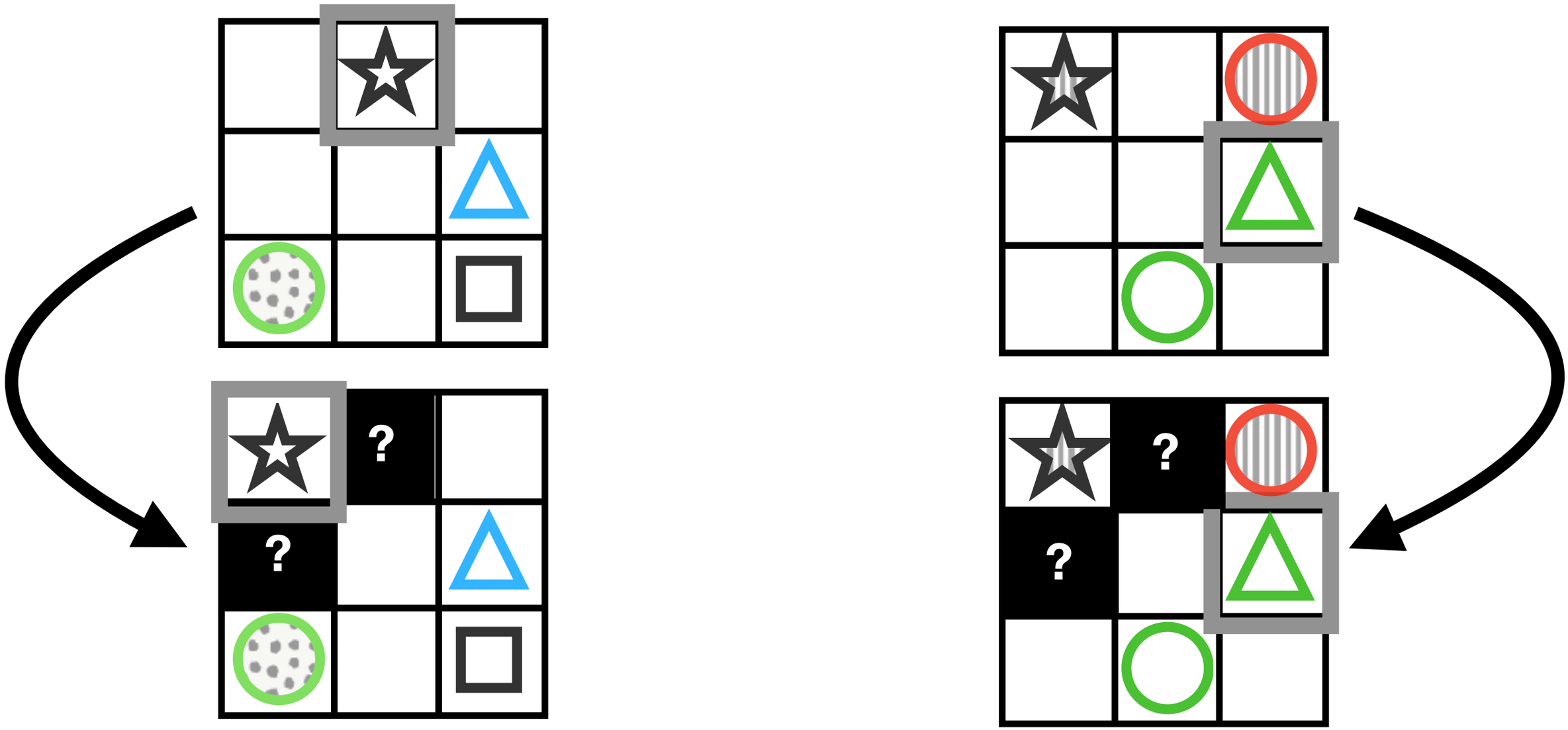
- Sample a feature dimension to vary in the display and sample two levels of this dimension (e.g. black & red)
- Sample a shape and create instances with each of the previous levels
- Repeat with a second shape to get displays like below



Hypothesis: on these trials, participants should have a **high** rate of producing modifiers

For ‘hidden’ trials…

- Add occluders and otherwise sample objects as usual…



Hypothesis: on these trials, participants should have an **intermediate** rate of producing modifiers (or, rather, higher than bare noun sufficient)

Design

- Hidden vs. non-hidden **between-subject**
  (b/c order effects)

- Trial type **blocked** or **randomized within subject**?
  (b/c concerns about caching, or memorizing associations)

- # distractors & features **randomized w/in block**
  (b/c we want there to be uncertainty about how many objects might be behind hidden squares)

- No real-time feedback (i.e. “your partner will see later…”)
  (b/c don’t want learning about whether or not there are actually things, what things, listener mistakes, etc…)

Other questions…

- Could also manipulate how many cells are hidden in hidden condition (e.g. if 3/4 objects are hidden vs. 2/4 or 1/4).

- Want hidden locations to be fixed or to move trial to trial?

- How many levels of each dimension should there be? 6 shapes, 4 colors, 2 textures, etc?

- How many trials overall?

- Should we have them do a few practice trials as listener to get them used to the game? Should they see a hidden object? (note that this *was* done in keysar expts)

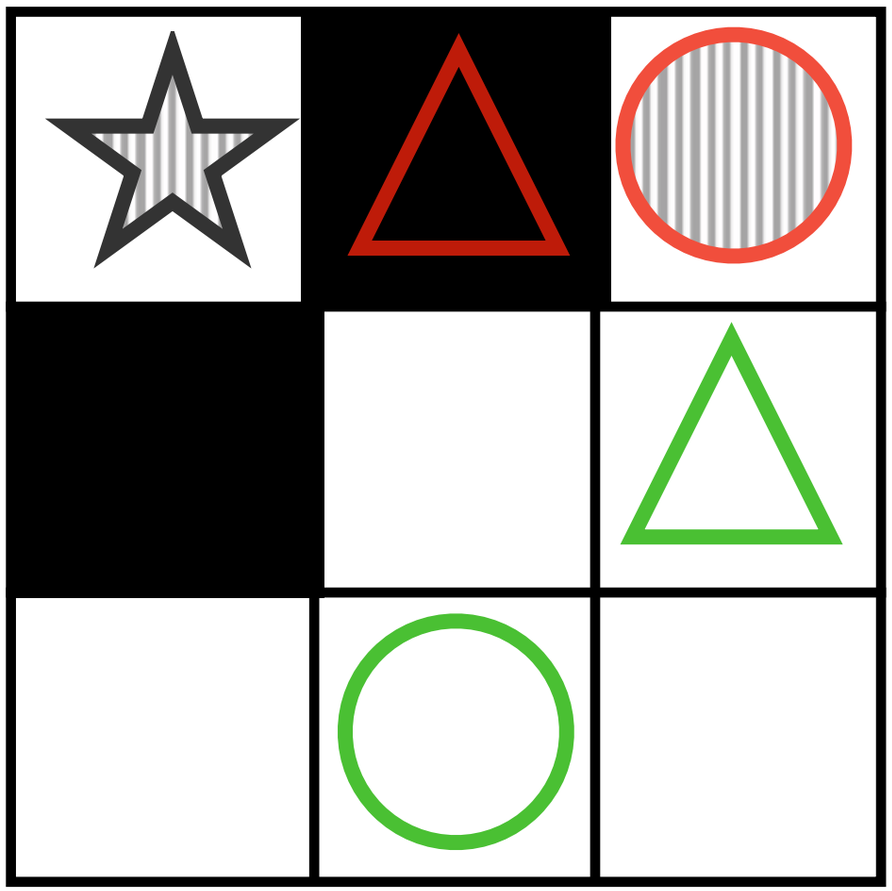
Exp. 3:
Listener manipulation

Cost expectation manipulation

- **High cost condition:** Your partner has to pay for every letter they type (or twitter style char limit? or hyper strict time limit?)

- **Low cost condition**: “partner has all the time and space they need to write a message …”

Keysar hidden distractor manipulation



Cooperative trials:
“the green triangle”
(taken from Exp. 2 modifier nec. condition)

Uncooperative trials:
“the triangle”
(taken from Exp. 2 bare sufficient condition)

Stimuli…