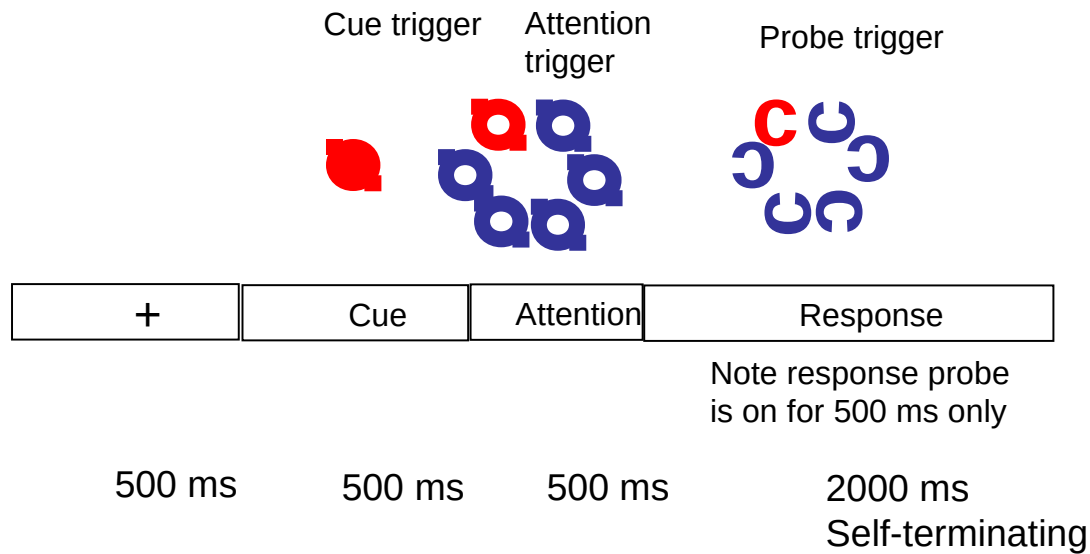


ATTENTION



Three blocks (pop-out), repeated color (habitual), change color (flexible).

150 trials of each type is plenty

At max 3.5 sec per trial, that's 17 trials/minute. **A 75 trial block would last ~ 5 minutes**, less if they respond quickly.

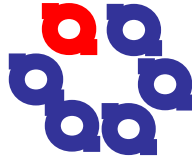
6 blocks of 75 stimuli would be ~30 minutes.

We still need to decide if we run separate blocks or interleave. For habitual, we would need to decide on how many a row if so.

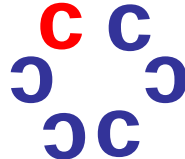
Cue



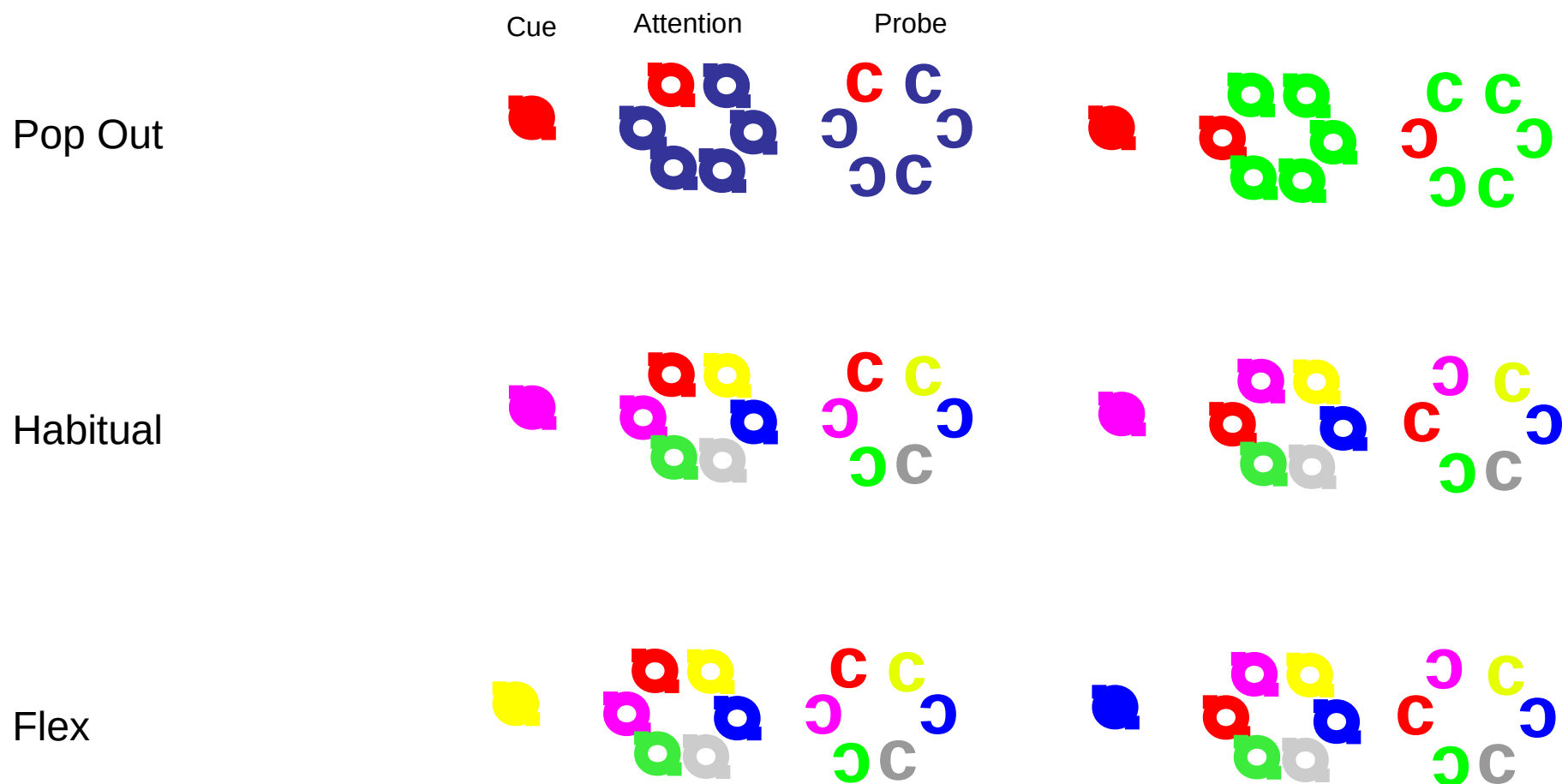
Attention



Probe



No up/down



0. INSTRUCTIONS?

Cue

Attention

Probe

Pop Out



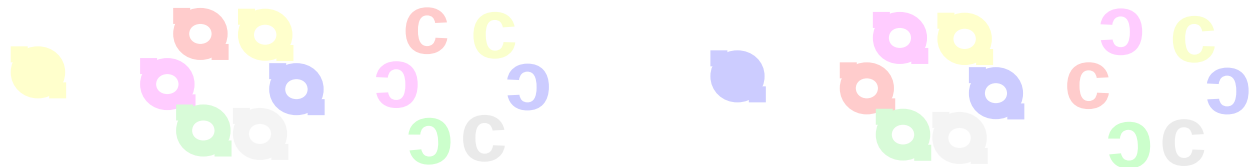
1. Distractor can be different colors within a block?

Habitual



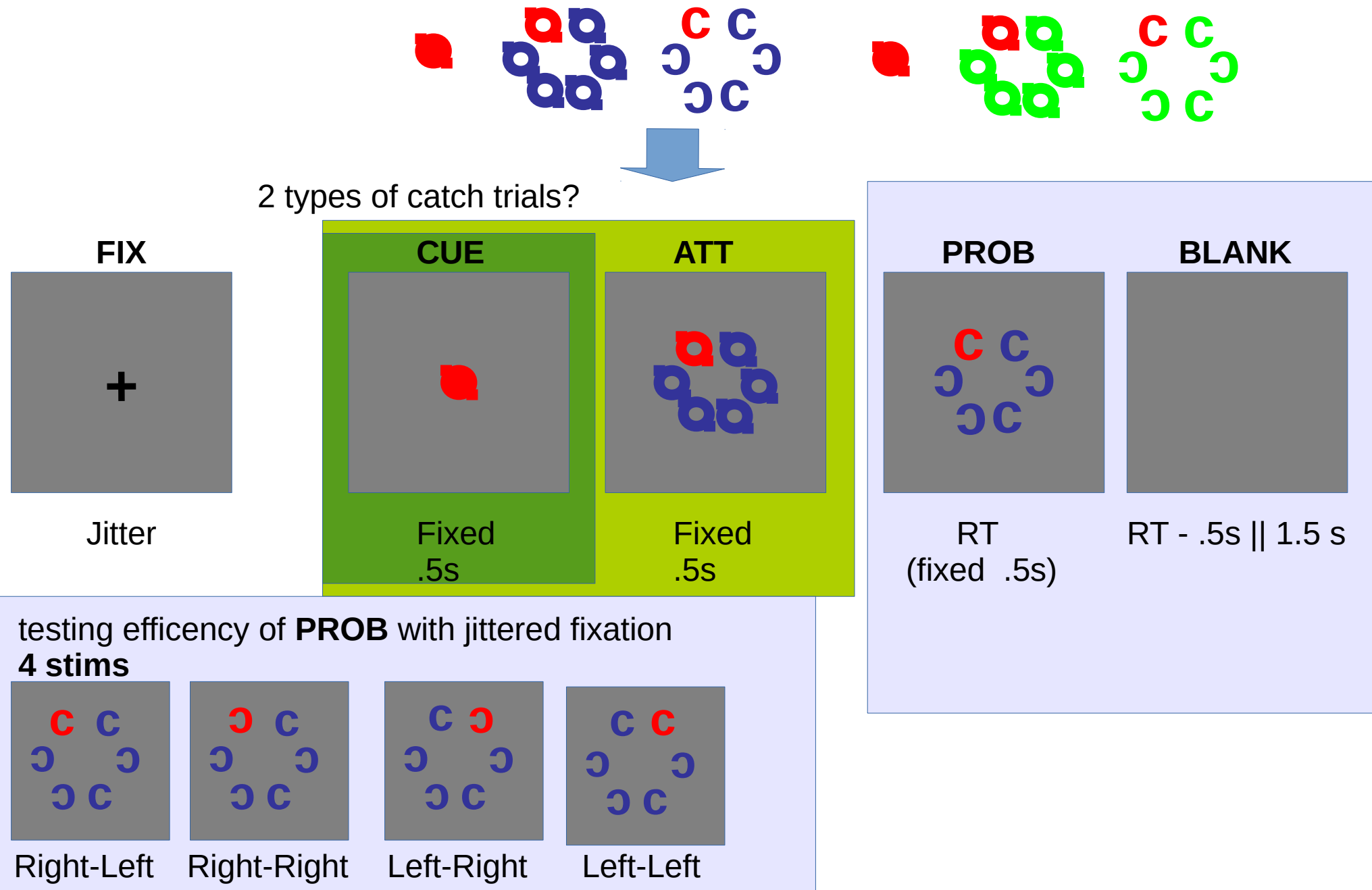
2. Hab/pop cue differs every blocks?

Flex



3. Only one type (hab, pop, flex) per block?

fMRI Timing Optimization

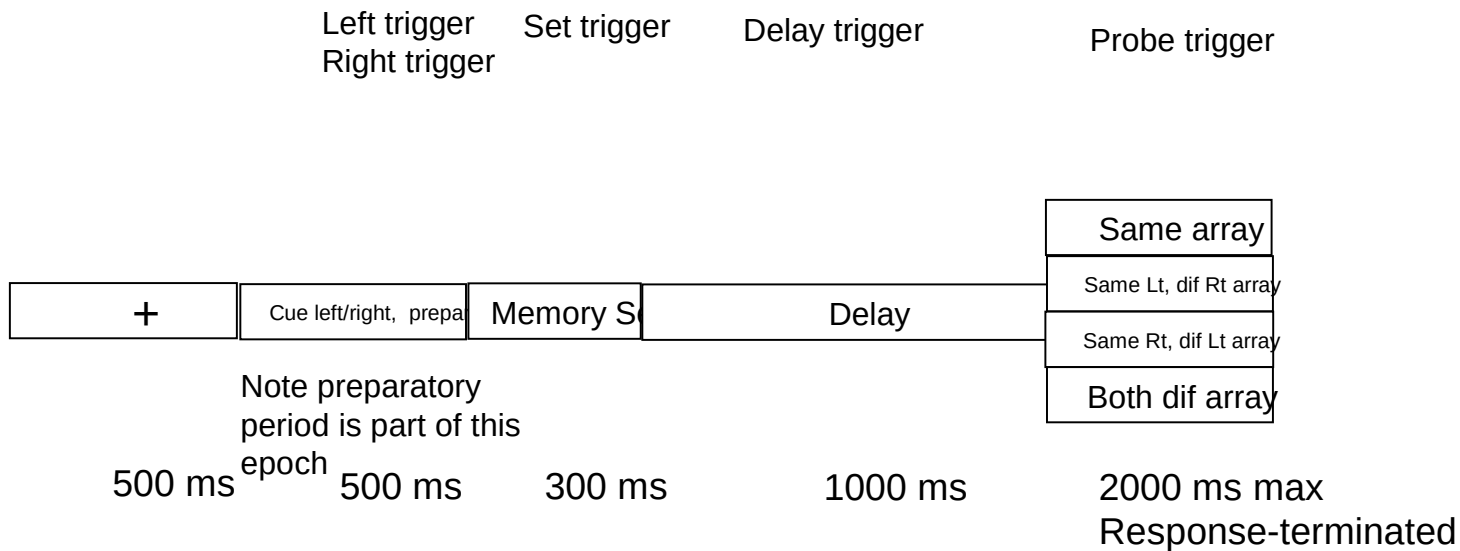


Working Memory

Basic layout for the lateralized vSTM task

1. Background is medium gray
2. $3^\circ \times 7^\circ$ grid 1.5° to the left and right of central fixation
3. Filled circles subtend 0.65°
4. Circles appear randomly in grids
5. Circles selected without replacement independently for each side from 8 colors: black, purple, green, light blue, pink, red, yellow, white. Since all are used randomly on each side luminance and contrast are OK.
6. Load on each trial varies between 1, 3, and 5, matched bilaterally
7. Only one color changes if there is a change, location does not

Crucial references: Ikkai, McCollough, Vogel, 2010, J Neurophysiol; Robitaille, Grimault, Jolicoeur, 2009, Psychophysiology



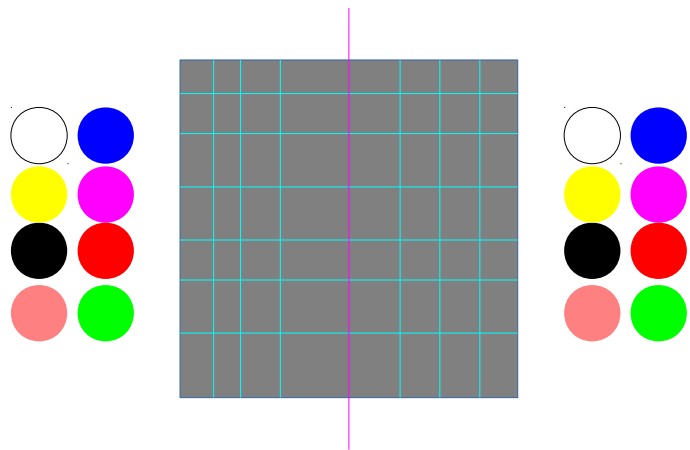
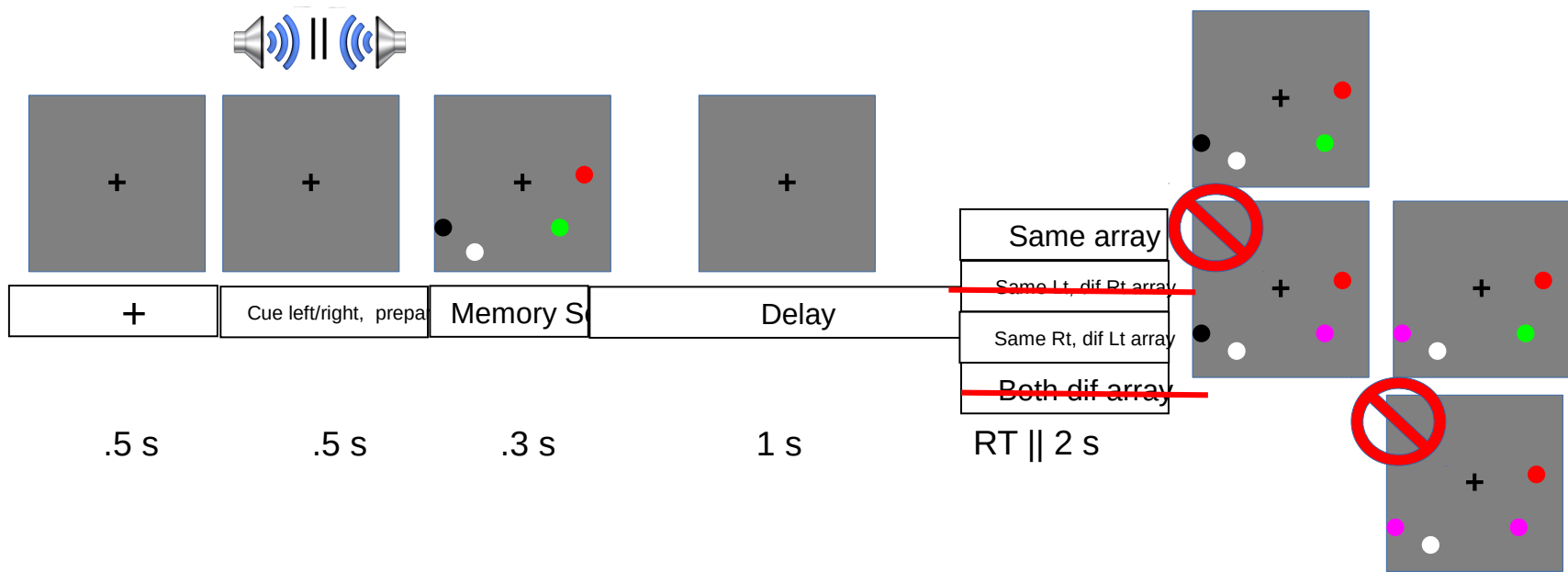
Eight combinations per load: attend left or right, no change, attend change, ignore change, both change.

If we collapse across attended hemifield, we can get 50 trials of each doing 200 trials per load (600 total).

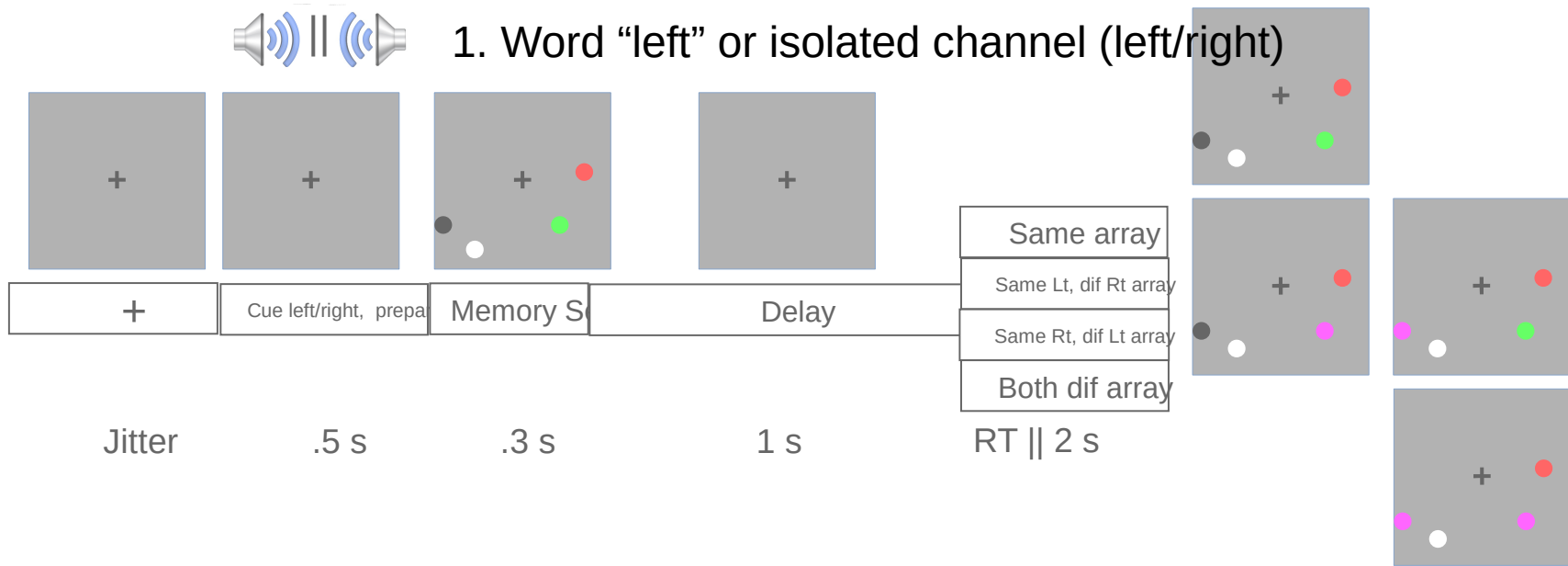
At max 5 sec per trial, that's 12 trials/minute. **A 100 trial block would last ~ 8 minutes**, less if they respond quickly.

Two blocks of 100 stimuli would be ~16 minutes, by 3 loads would be ~ 48. We need a minimum of 50 trials to get signal in the EEG/MEG I would think.

Ultimately, we would collapse across only what happened in the attended field, and 100 trials is our target.



e.g. cue=left



2. Load interleaved or blocked?

3. Instructions? index for same, middle for different

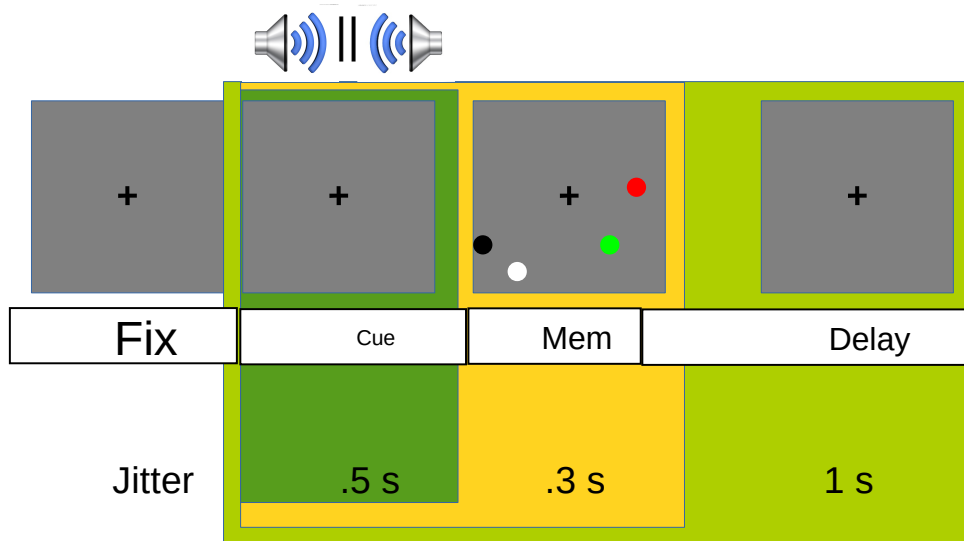
Left: index same, middle diff

Right: middle same, index diff

two button gloves? => gets at attending side, instead of a both diff/opp diff

4. Colors: choose equally spaced colors, force change to be color of furthest distance (brewer)

5. difficulty: increase memory to .5 a al [cite]



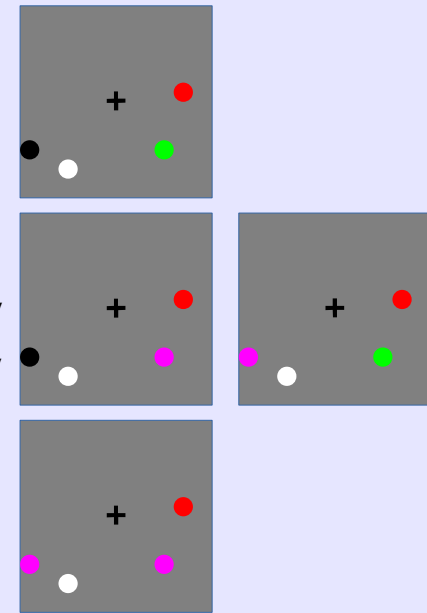
Same array

Same Lt, dif Rt array

Same Rt, dif Lt array

Both dif array

RT || 2 s



fMRI Timing Optimization

Side (2) X Change (4) => **8 stims**

3 catch trial types?

cue(L&R together or sep.?)

cue+mem(1 3 5 together or sep.?)

cue+mem+delay

Optimize Response?

All (cue mem delay) equal?

Max catch trials?