

「MCS」

「MIKE'S CAMERA SCHOOL」

PHOTO VIDEO MEDIA

lighting 201

presented by: joe klocek

in the studio

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- lighting 101: perfect people shots
- lighting 102: speed light workshops
- lighting 201: in the studio
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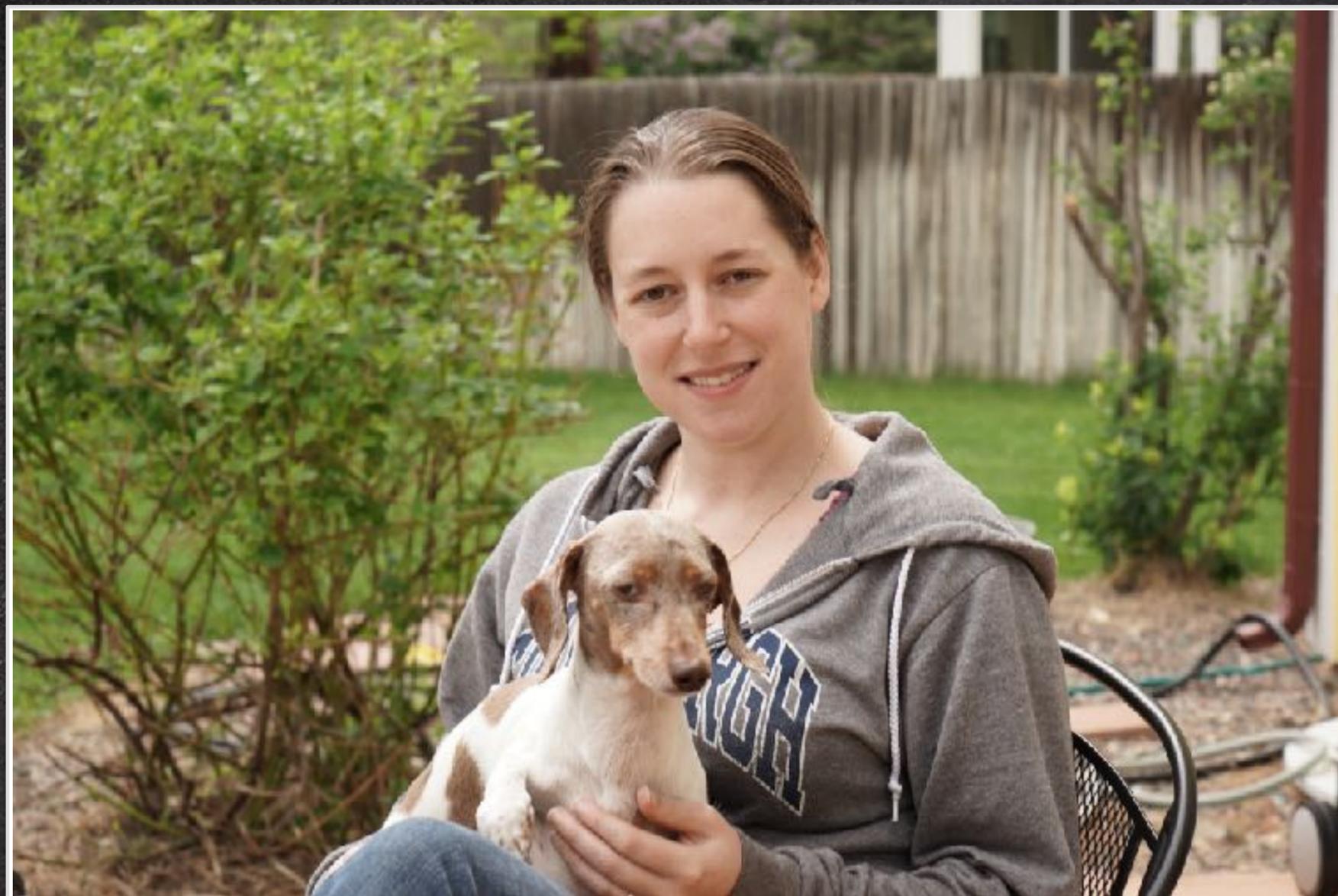
our class

 2 hour lecture tonight

 sunday morning shoot, 8:45-11:00

luminosity

How bright is the ambient exposure?
Our flash must be at least that bright, on our subject,
for it to register in the photograph.



ambient light



ambient light



ambient light

luminosity

What we are doing outside is mixing our studio light into the ambient environment, but what if we want to move inside? what kind of benefits can we expect?

first, we can control all direction, luminosity, and specularities of the light

not only that, but we have a single white balance to worry about



luminosity

when we step into a studio the first thing we should do is find an exposure we provides a black frame when the strobes do not fire

when we have this and add light back in, all light within the frame is controlled, and so it is a single white balance and all of its attributes are adjustable (unlike ambient light)

but to work in this environment we need to understand something about how bright our lights are





watt seconds

describes how much power is used, but not its efficiency, because of this it is inconsistent



watt seconds

that said, we can use it to gain a basic understanding of how bright our lights might be at full power



watt seconds

for instance, if a black frame appears at $f/5.6$, then we need our lights to fire at at minimum $f/5.6$ (but probably brighter)

luminosity

- now for a pop quiz, with no other information than the pictures before you, is it possible to tell which light source was brighter?



luminosity

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luminosity

- the answer is no, if I take a light source of any kind and find that it is, for instance, f/11, then setting my camera to f/11 gives me a proper exposure



luminosity

- should that light source change brightness and drop to f/4, then changing my aperture in my camera to f/4 will give me, again, a proper exposure



luminosity

- therefore, a light's brightness is merely a question of what aperture you shoot at





luminosity

- within a shot, an individual light will always be described as an aperture at a distance



luminosity

- after all, we start in the studio at ISO 100 and our shutter speed starts at the edge of sync speed



luminosity

- therefore we cannot really change either factor to control exposure (more on shutter later)



luminosity

- so aperture is the mechanism we have to describe a light's brightness

inverse square law

when a light's distance from a subject doubles, its brightness reduces to a fourth its original value



inverse square law

when a light's distance from a subject doubles, its brightness reduces to a fourth its original value



inverse square law

f/1.4

f/2

f/2.8

f/4

f/5.6

f/8

f/11

f/16

f/22

f/32

inverse square law



f/22

f/11

f/5.6

f/2.8

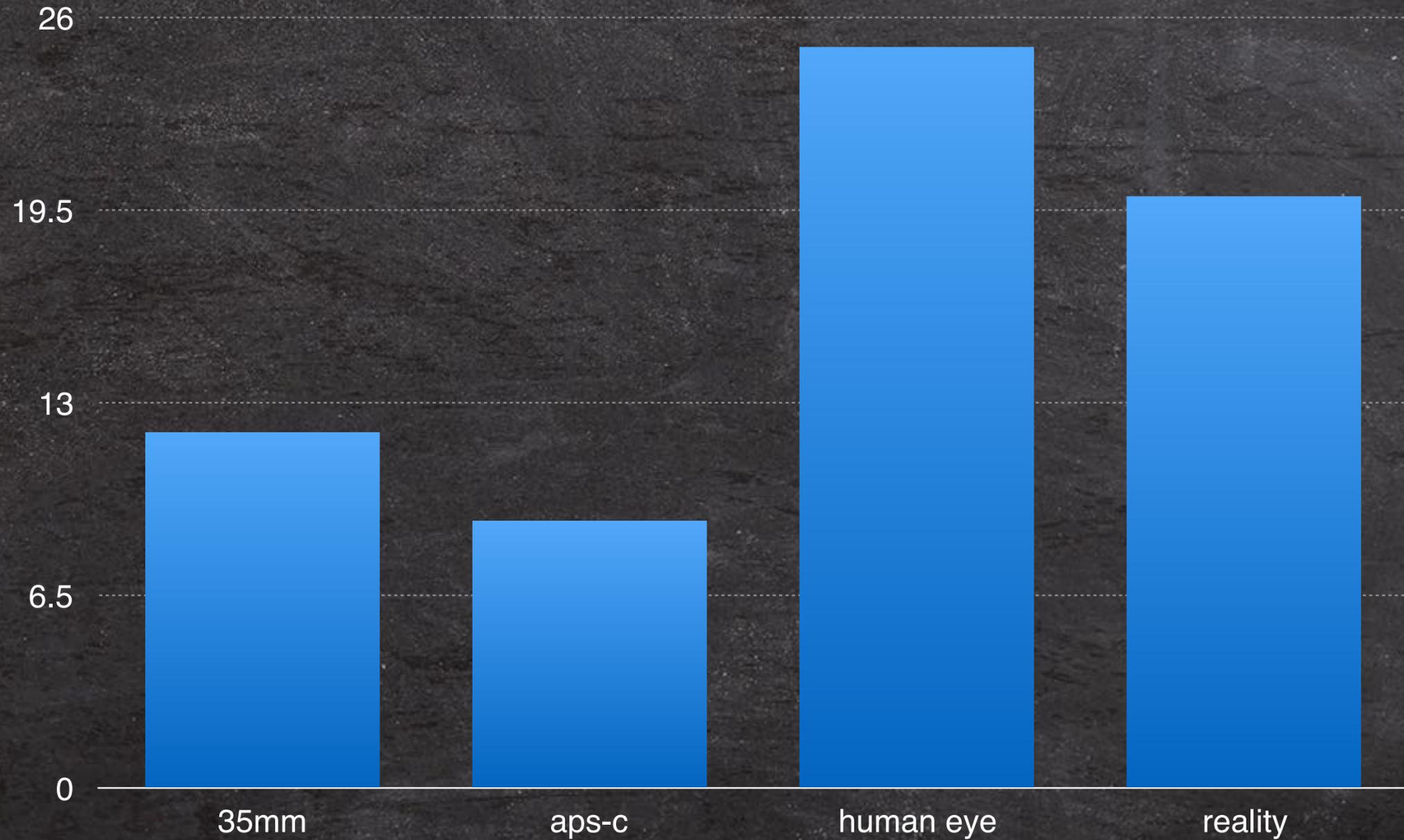
f/1.4



light contrast



light contrast



light contrast

Ambient light



Camera's
dynamic range

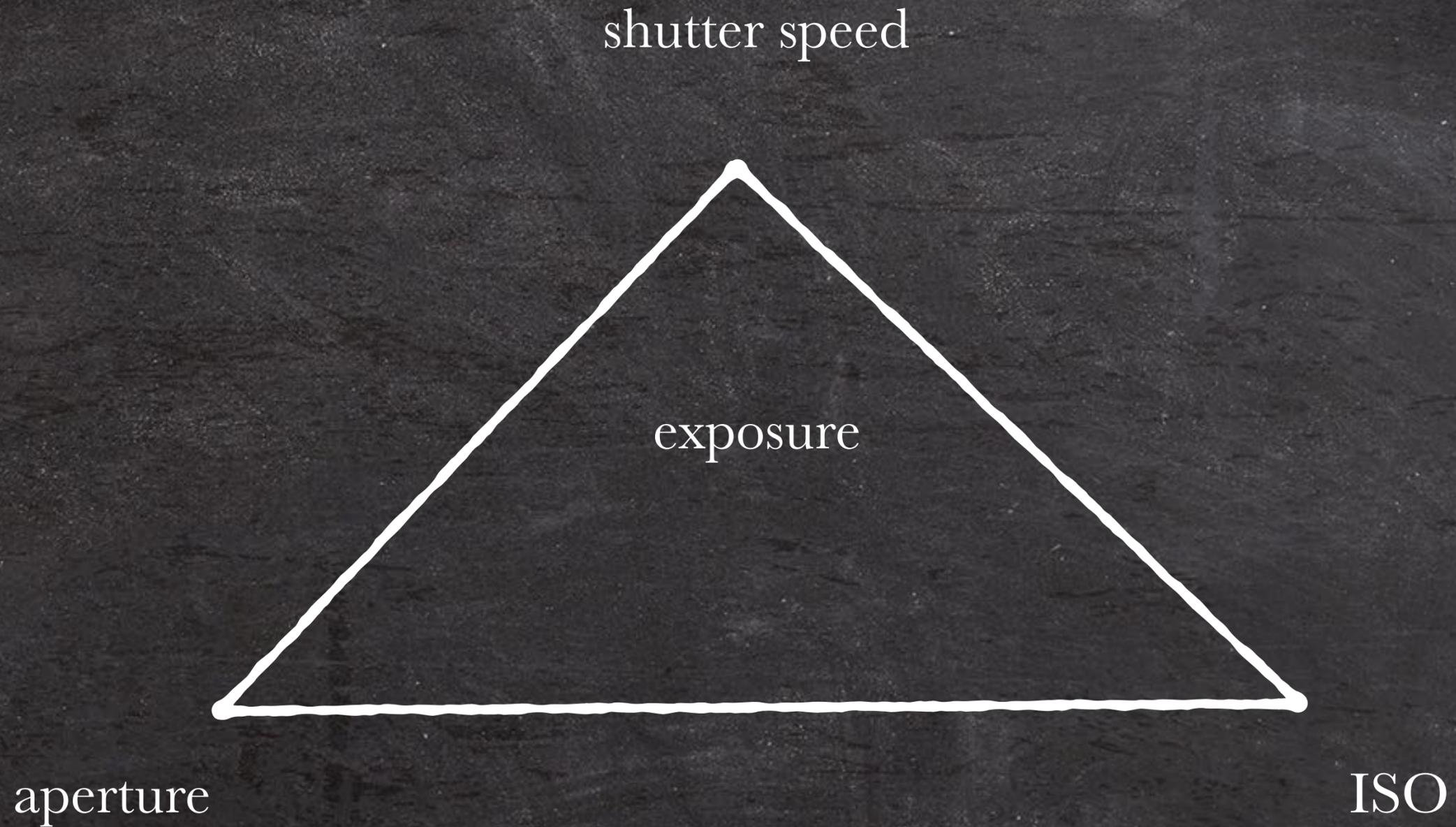
light contrast

Ambient light



Camera's
dynamic range

light contrast



light contrast

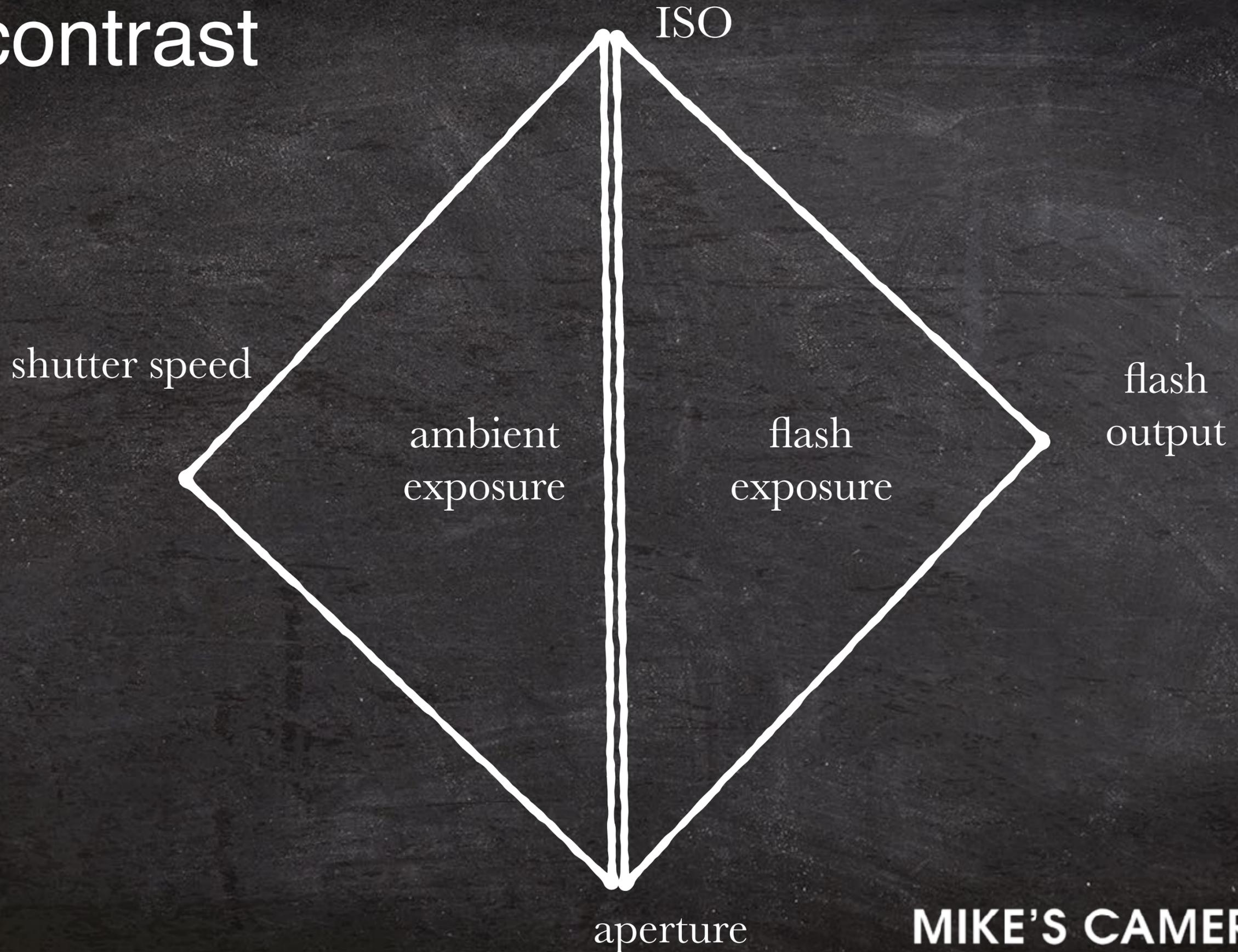
ISO

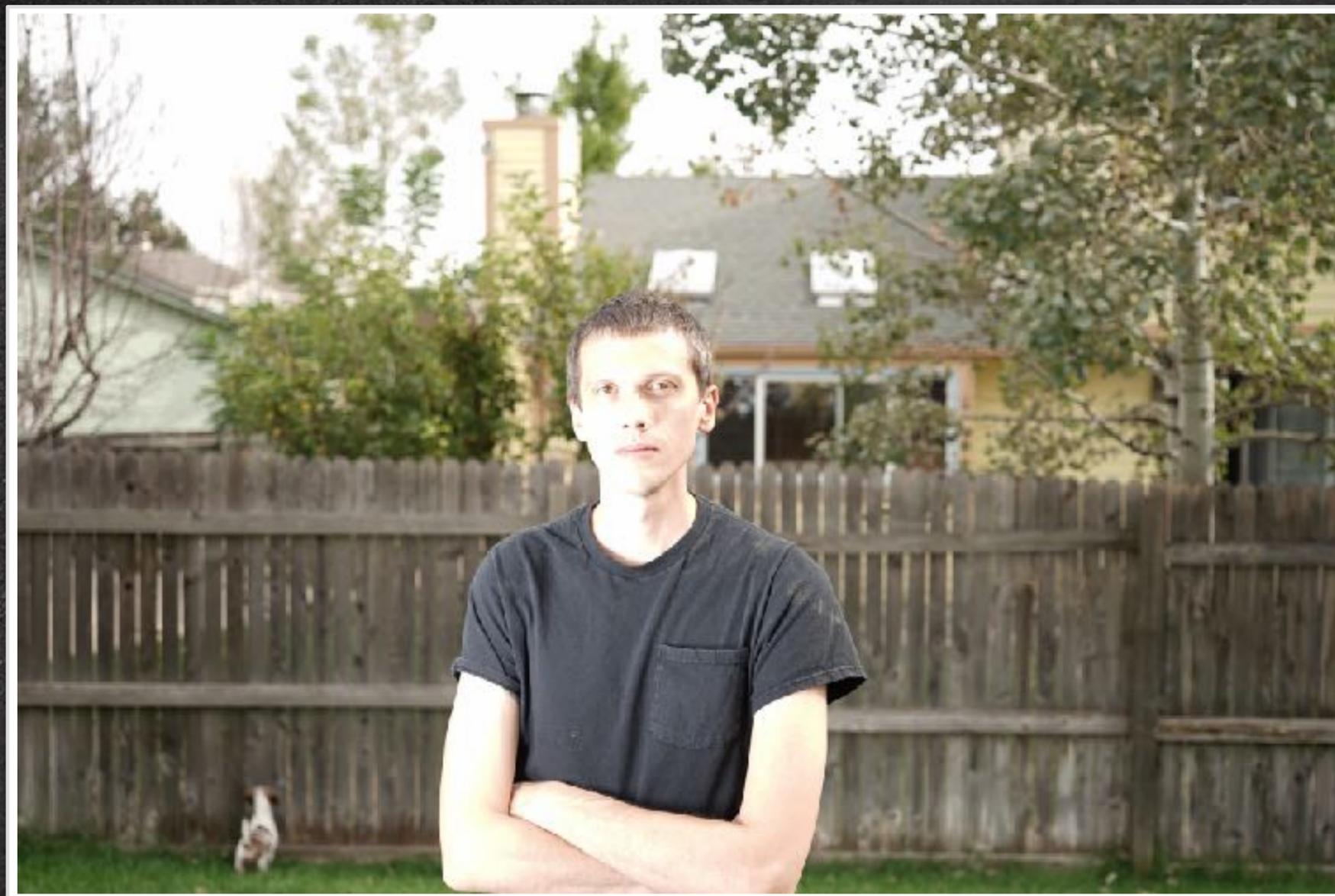
shutter speed

ambient exposure

aperture

light contrast





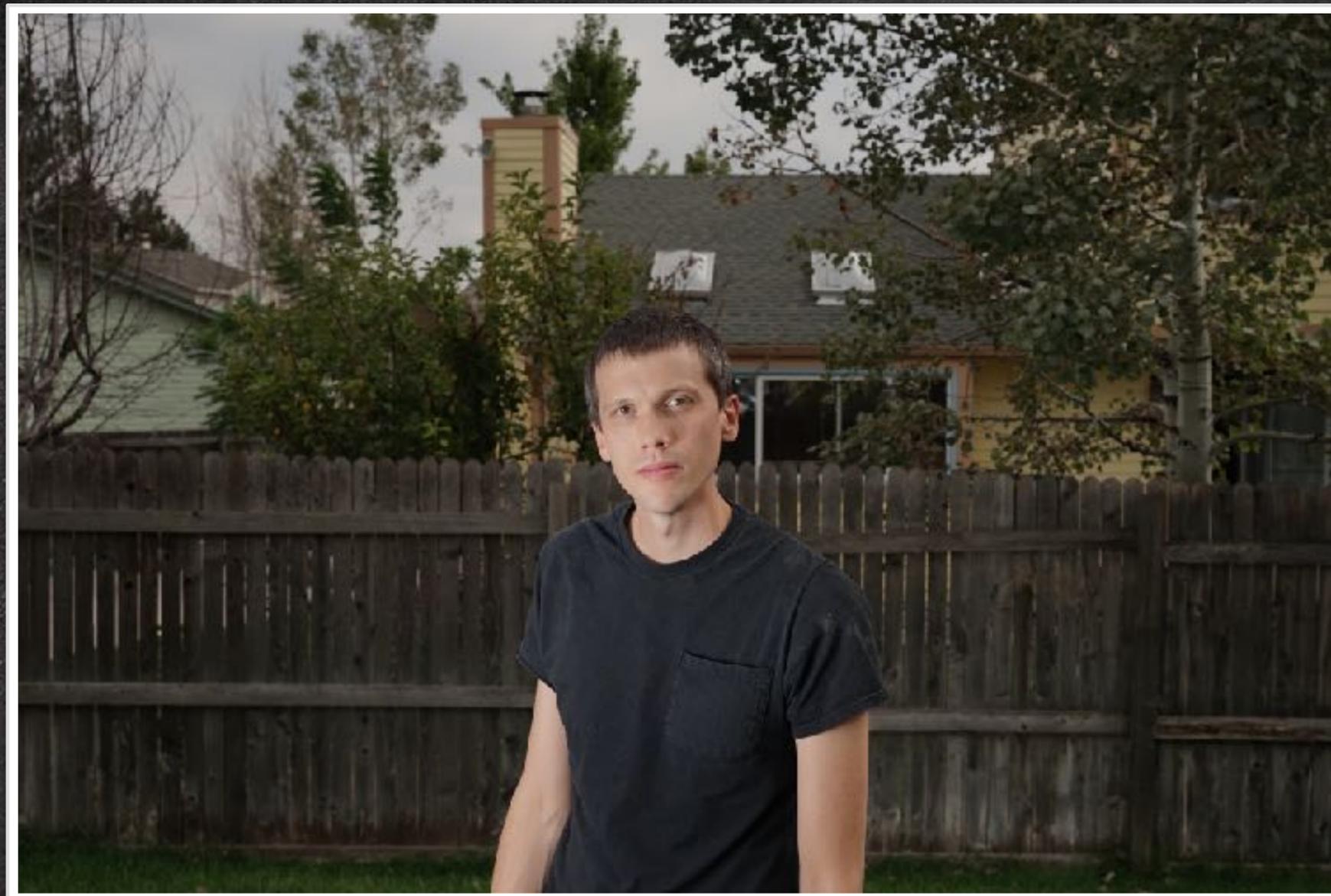
light contrast

f/4, 1/100, ISO 50



light contrast

f/8, 1/100, ISO 50



light contrast

f/8, 1/200, ISO 50



light contrast

f/8, 1/100, ISO 50, flash at 1/2 power

light contrast

Either the difference between the brightest and darkest areas of the frame or the difference between the brightest and darkest areas on a subject.

Managing both triangles controls for the first while the number of lights, their placement, and respective sizes control for the second.

light contrast



light contrast

high key



low key

specularity

specularity



the larger the light
the softer the light

specularity



inverse square law

Light placement is a balance between specularity, contrast, and luminosity. The closer a light, the brighter and less specular it is. However, it may have more light falloff. Brighter light sources give more latitude in the distance they can be placed from a subject while maintaining luminosity.

inverse square law

* Size is an interplay between the light's physical dimensions and distance to the subject

* Lights up close give very little room for subject movement



* You can use inverse square to alter background color

classic setups

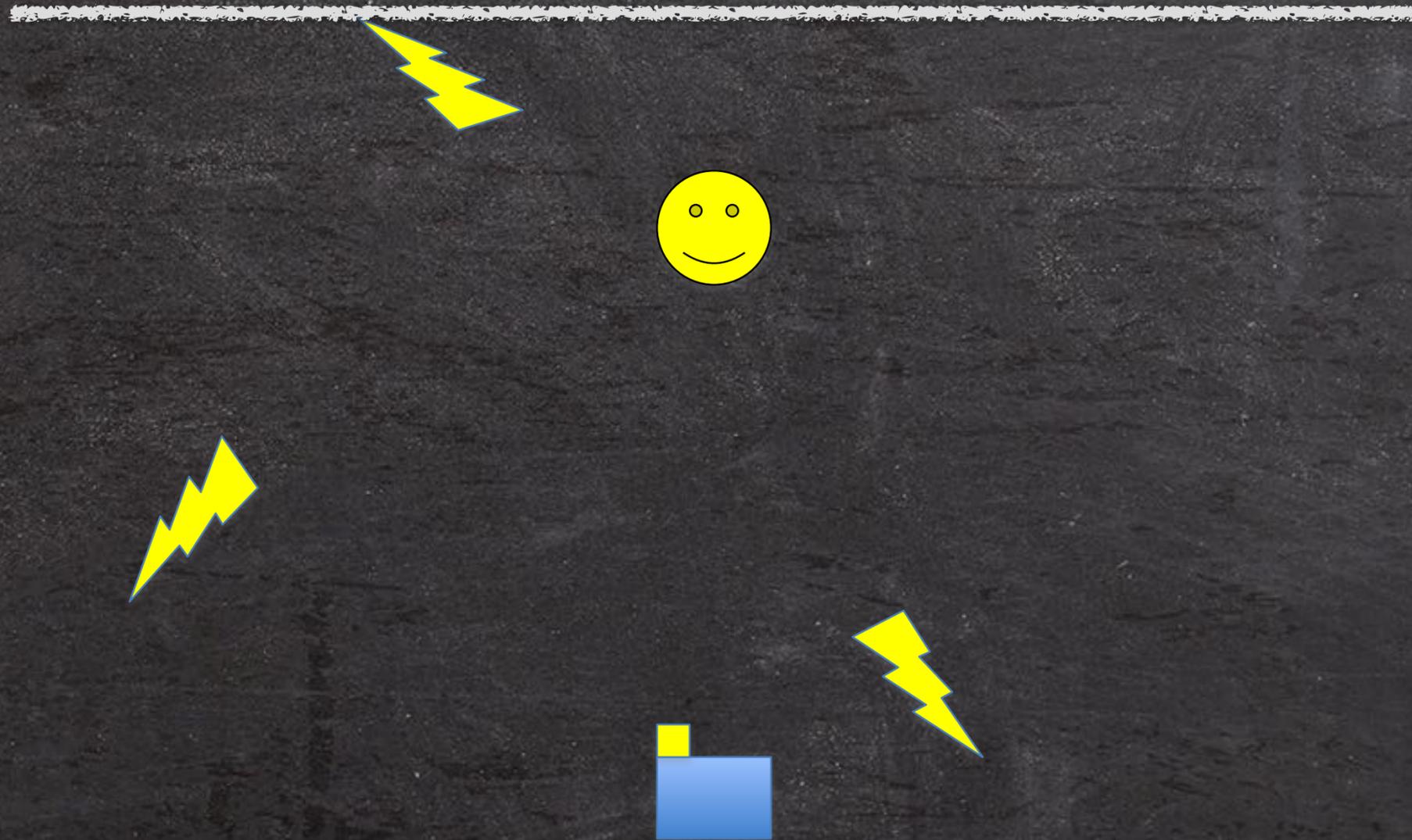
classic setups



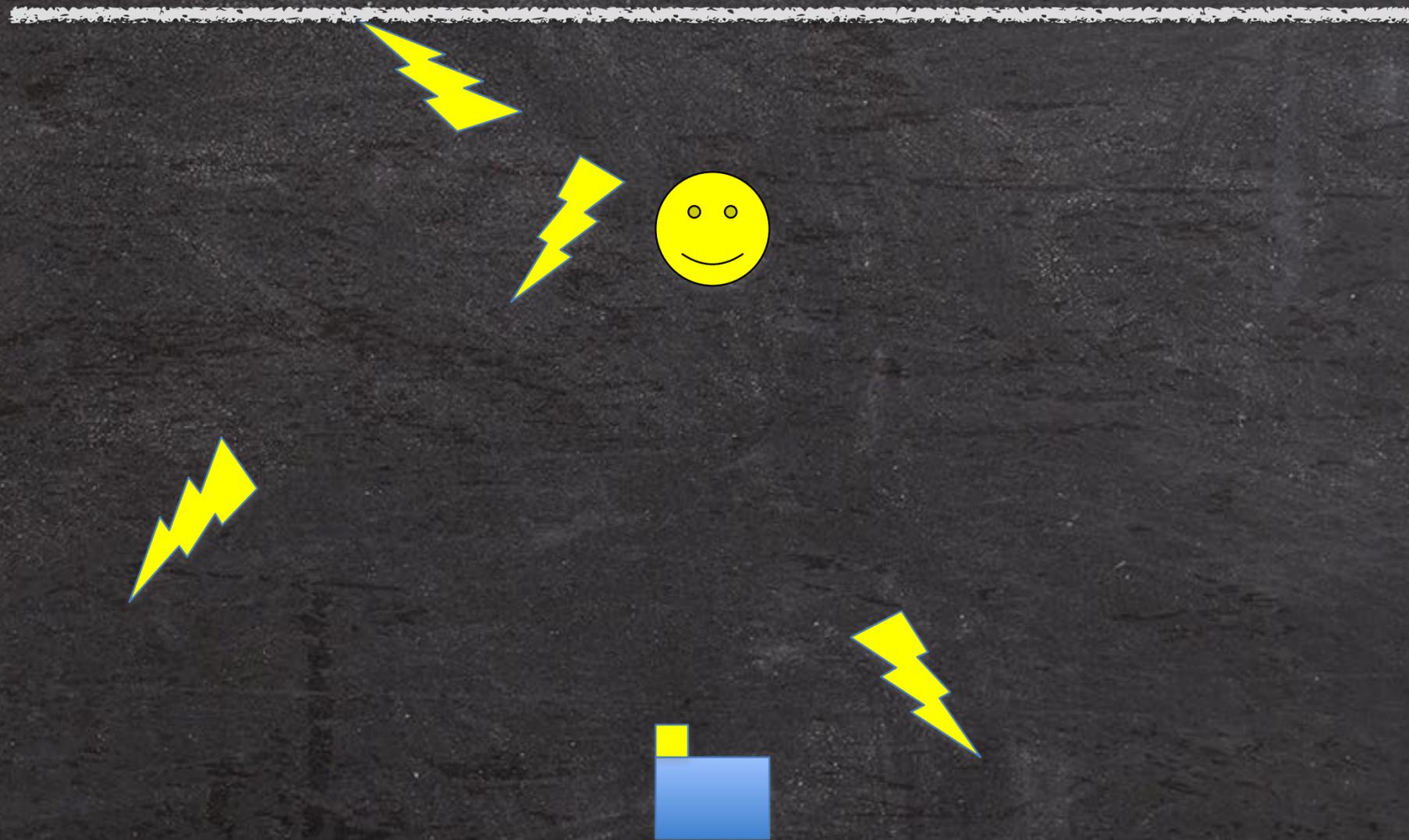
classic setups



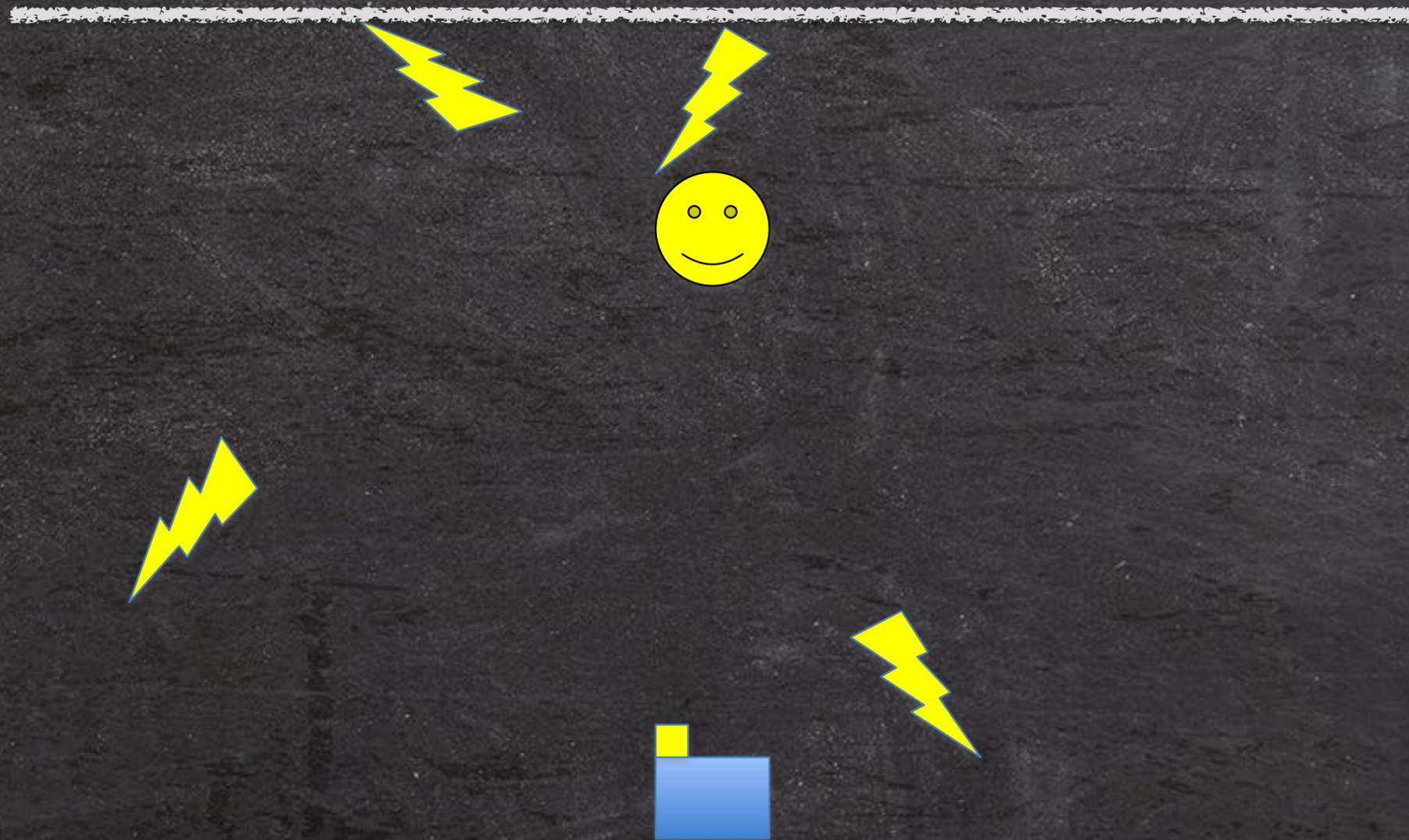
classic setups



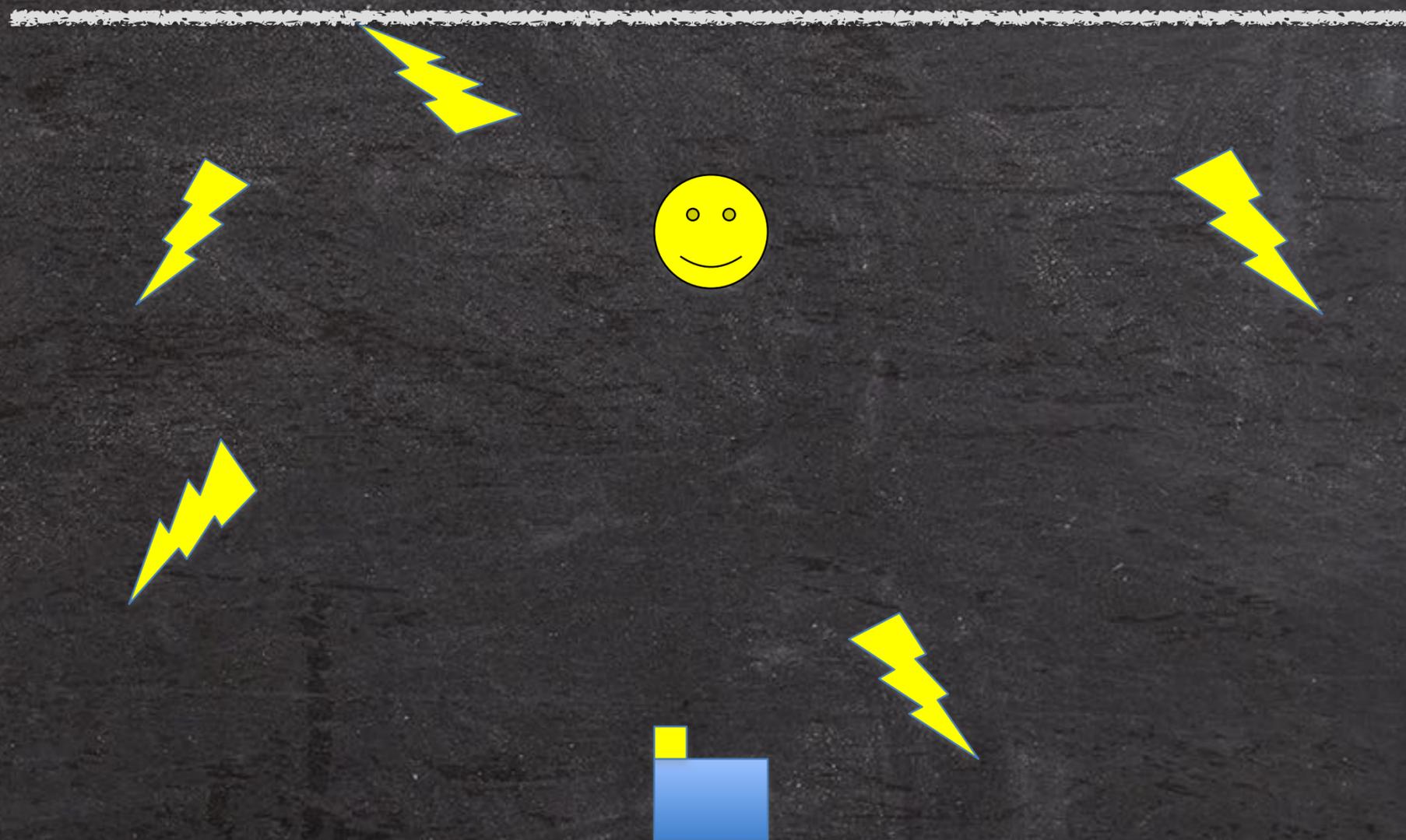
classic setups



classic setups



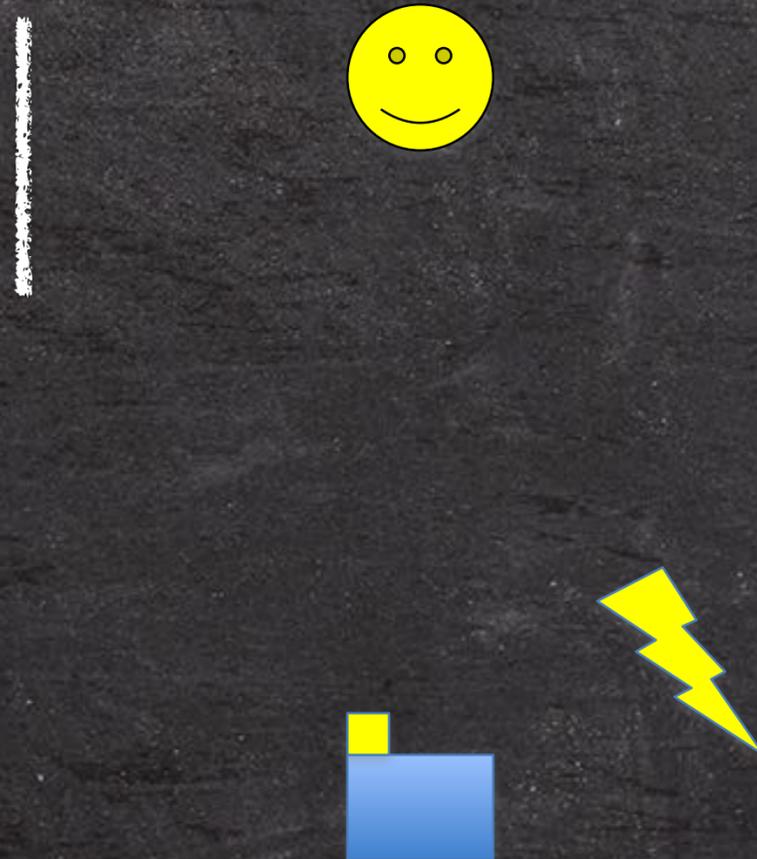
classic setups



classic setups



classic setups



classic setups

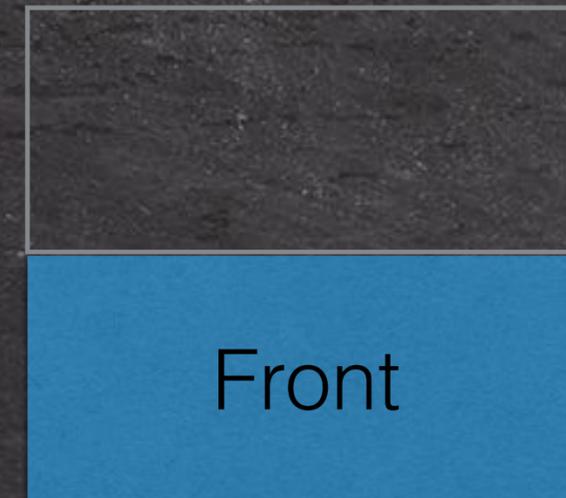


sync speed

Sync speed is the fastest shutter speed where the rear curtain begins moving only after the front curtain finishes. Therefore, it is the fastest shutter speed you can use in a normal flash situation.

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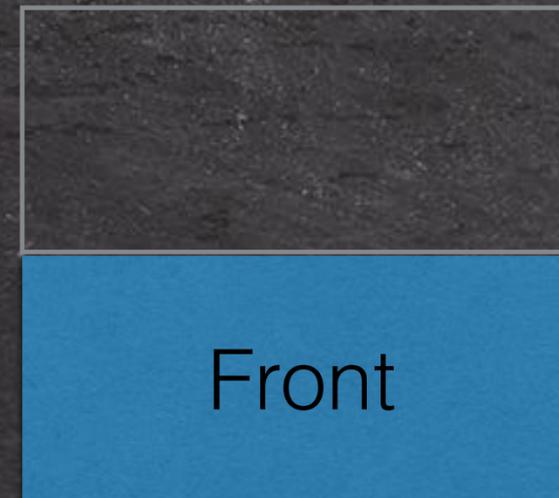
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sync speed

Standard sync speed for cameras is typically either 1/200 or 1/250, which gives very little movement for shutter speed in a flash situation.



high speed sync

- shutter speeds fast enough that the light needs to strobe rather than fire a single burst



high speed sync

- while this reduces your working distance it allows for much more open apertures



triggering

thank you

