PHOTO I

MIDTERM REVIEW!

THESE TOPICS
WILL BE COVERED

1. Shutter speed
2. Aperture
3. Depth of field
4. Point of departure
5. Light metering & grey cards
6. Bracketing
7. Equivalent exposures
8. Film speed
9. Parts of the enlarger & camera
10. Easels
11. Dodging & burning
12. Processing film
13. Darkroom chemistry
14. Photoshop
15. Principles of Composition

shutter speed

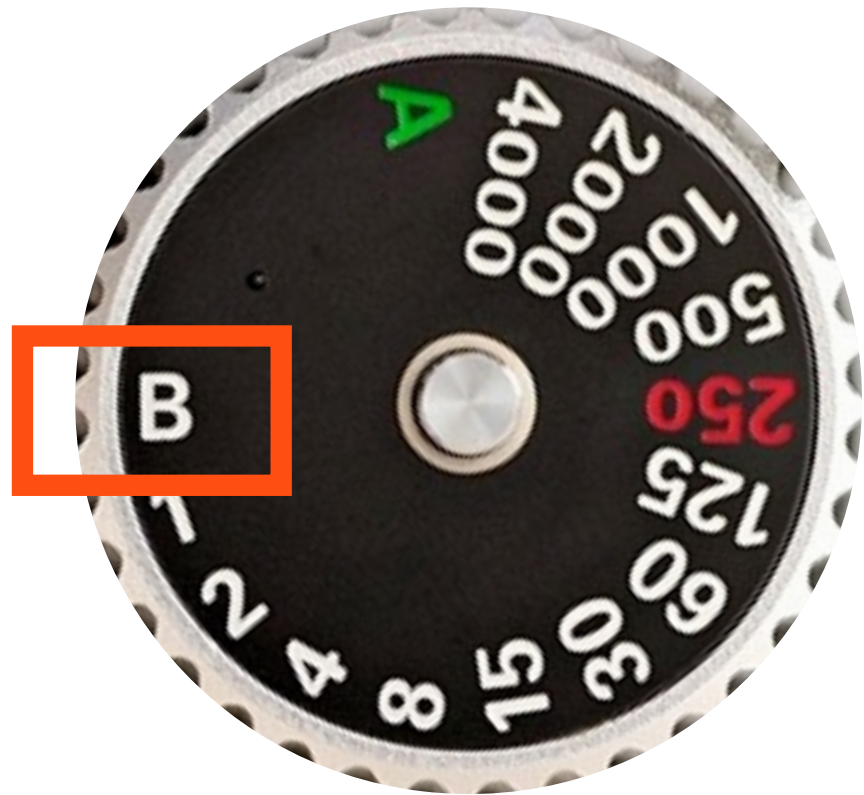What is this?

shutter speed dial

What does it do?

controls how long the shutter is open - in fractions of a second

What does shutter speed TECHNICALLY control in your photograph?

how long the shutter is open - how much LIGHT gets in

What does shutter speed CREATIVELY control in your photograph?

a sense of MOVEMENT or MOTION

What does the "B" stand for?

"bulb"

What does it do?

lets you have complete control over shutter speed

How?

press the shutter release once to open the shutter, then a second time to close it

When would you use this?

if you want a REALLY long exposure time - maybe to show city lights at night, or the movement of water over a long period of time, etc.

What is this?

a tripod

When do you use this?

at shutter speeds below 1/60

What happens if you don't?

it will be blurry and you will be disappointed. I promise.

If you wanted to take a picture of a running man so that the action would be "frozen" - what shutter speed might you try? *1/1000*

What if you wanted to "show movement" - how would you do that? *1/30 (blur)*

1/30 & panning (sharper subject, blurred background)

aperture

What is this?

aperture ring

What does it do?

controls the size of the aperture, measured in f-stops

A low f-stop number = a ___*LARGE*___ aperture.

What does aperture size TECHNICALLY control in your photograph?
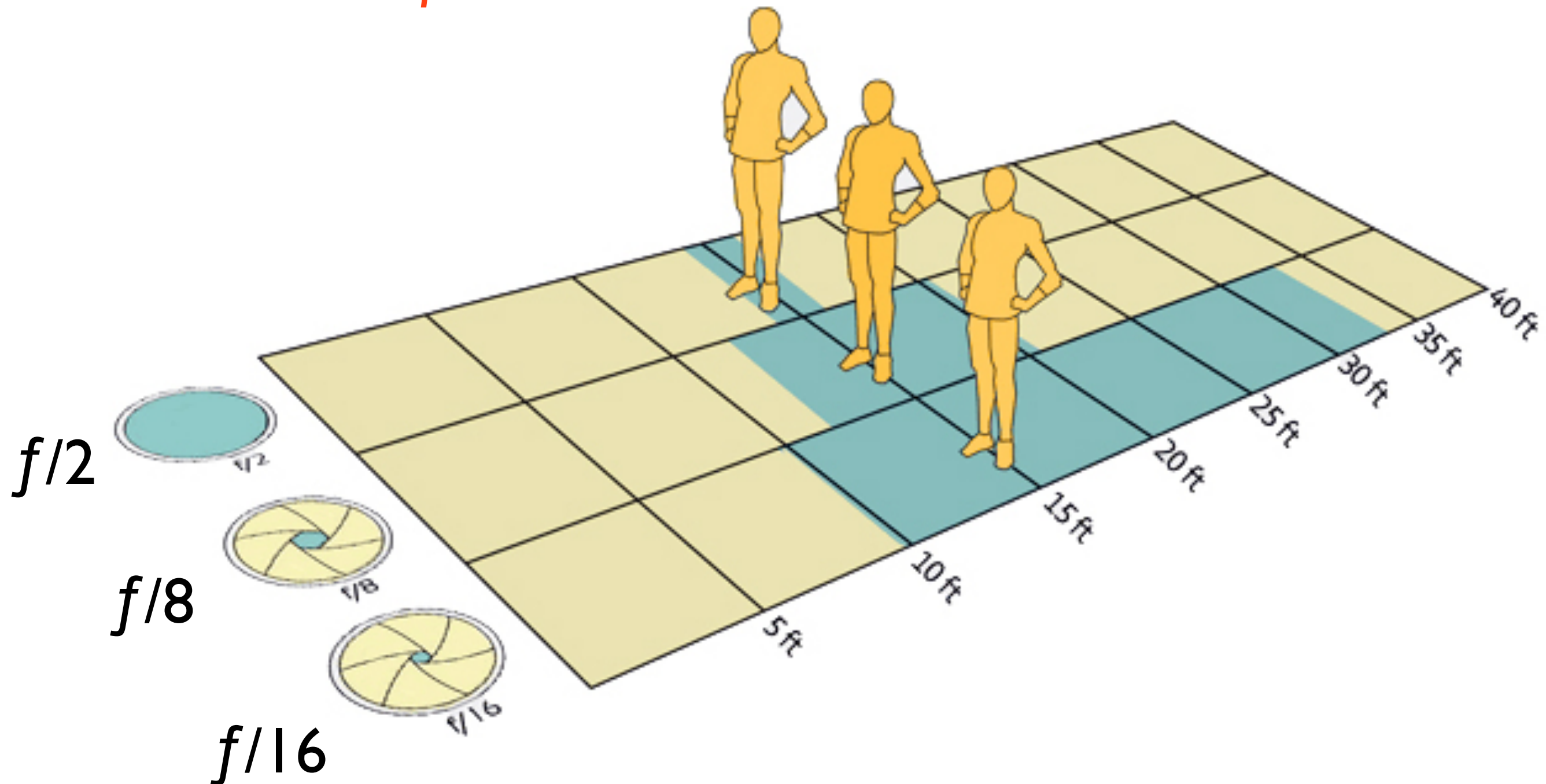
how large an aperture - how much LIGHT gets in

What does aperture size CREATIVELY control in your photograph?

DEPTH OF FIELD

depth of field

Depth of Field

- *the "wall of focus"*
- *how much (forwards and backwards) of your image will be in focus*

f/2

f/8

f/16

5 ft 10 ft 15 ft 20 ft 25 ft 30 ft 35 ft 40 ft

Depth of Field

If you want a great depth of field, what size aperture should you use? *SMALL*

Such as? *f*/16

If you want a shallow depth of field, what size aperture should you use? *LARGE*

Such as? *f*/1.4

point of departure

What are the settings for our "point of departure"?

f /8   125

How do we use point of departure?

as a STARTING POINT for light metering

Why are those settings our point of departure?

they give you a lot of room to make changes in your aperture and/or shutter speed, in either direction

light metering
&
grey cards

Remember that your camera's ROBOT EYE (a.k.a. the light meter/sensor) is trying to look at what you're photographing and find the MIDDLE VALUE.
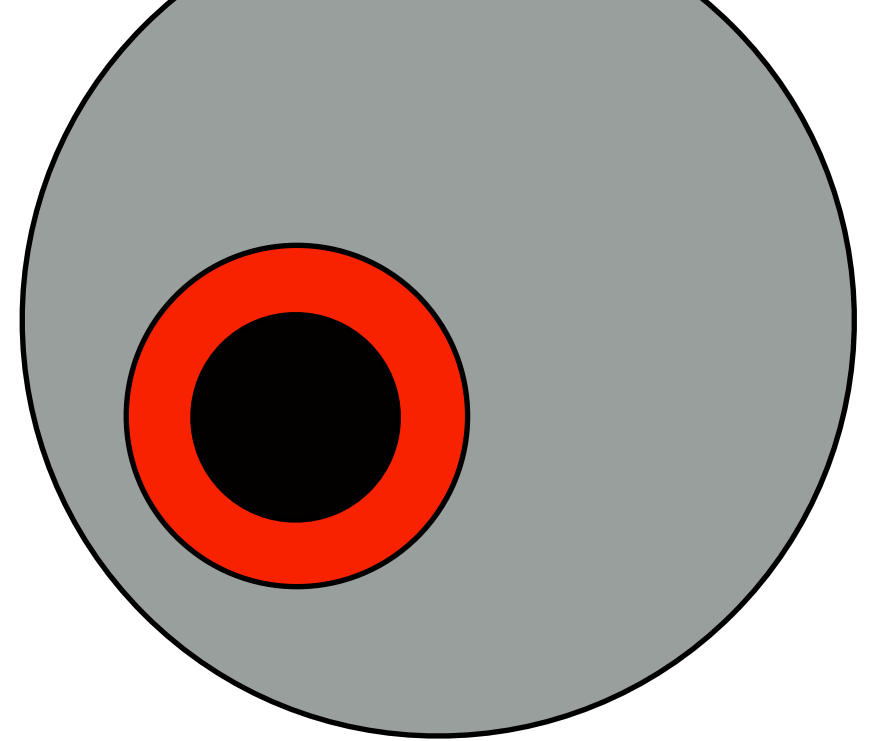
If you try to get a light meter reading from a really dark or a really light area, your picture will not come out well because the robot eye will think that is the middle value.

Instead, try to meter from something IN THE SAME LIGHT as your subject, that really is a middle value. (Or you can use a grey card!)

A grey card can be used
if you want to be sure
you are metering from
an "official middle value."

I don't want to brag or anything, but...

18 % grey

bracketing

What is bracketing?
taking the same photograph at different exposures

Why would you do this?
to make sure you get a good exposure - especially in situations that are challenging to meter, or for photographs that are really important to you

How do you bracket?
1. light meter

2. choose which setting you want to "keep" (aperture or shutter speed)

3. identify the 3 settings you will use when bracketing (the one directly across from the "keep," and also "one up" and "one down".)

4. take the three photographs

How do you bracket?

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500	250	125
	$f/8$	

4. take the three photographs

$f/8$ at 1/500 $f/8$ at 250 $f/8$ at 125

equivalent exposures

Equivalent Exposures

What are "equivalent exposures"?

different combinations of aperture/shutter speed settings that give you the same exposure (range of light/dark values)

Why do they matter?

- *to help you make use of your CREATIVE controls (depth of field and the sense of movement) while still getting a properly exposed image*

- *to help you NOT use a tripod but still get a clear and properly exposed image*

USING Equivalent Exposures

Let's say you are asked to shoot a photograph of a pinwheel in motion, for the "OMG it's SPRING!!!" issue of a local magazine.

You find a pinwheel that is moving, and your camera's light meter tells you that you should use 1/500 and f/2.   This is the picture you get:

<p style="text-align:center; color:orange">f/2 and 1/500 sec</p>

You're really happy with the exposure (the range of light and dark values) but it totally doesn't show motion. Like at all.

What should you do?

USING Equivalent Exposures

What setting was responsible for "freezing" the motion of the moving pinwheel? *shutter speed*

What could you do to create the sense of motion in your photograph? *lower the shutter speed*

f/2 and 1/500 sec

Since you got the EXPOSURE right, that means you're happy with the <u>relationship</u> between your settings, you just need to use a lower shutter speed such as perhaps 1/30 sec.
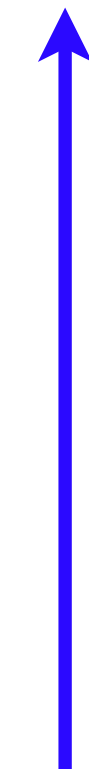
Use an Equivalent Exposure chart to figure out what aperture to use with 1/30 sec so that you have the same EXPOSURE that you had with 1/500 sec.

USING Equivalent Exposures

Use an Equivalent Exposure chart to figure out what aperture to use with 1/30 sec so that you have the same **exposure** as with 1/500 sec.

500	250	125	60	30	15	8	4
$f/2$	$f/2.8$	$f/4$	$f/5.6$	$f/8$	$f/11$	$f/16$	$f/22$

these images are equivalent exposures

$f/2$
500

USE A TRIPOD

$f/8$
30

film speed

Film Speed

refers to the level of light in which you can photograph

What changes?

the size of the silver particles

What is ASA/ISO?

scales we use to measure film speed

LOW speed film has __SMALL__ silver particles.

it can be only used in situations that have HIGH levels of light

HIGH speed film has __BIG__ silver particles.

it can be used in situations that have LOWER levels of light
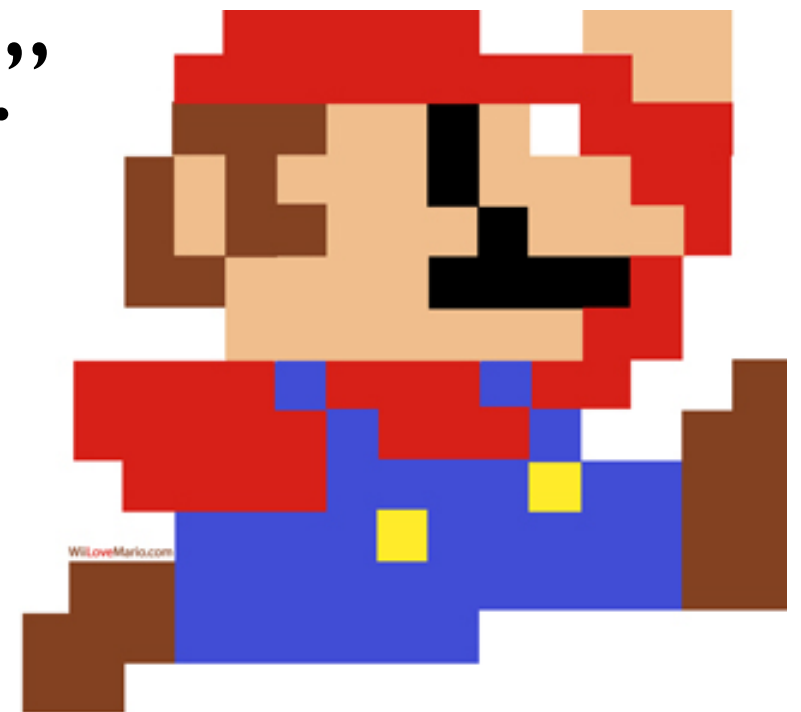
You can think about film speed like little light sponges. Or like pixels.

LOW speed film has ___SMALL___ "pixels."
- *low light-sensitivity*
- *low contrast*
- *low visibility of grain ("pixels")*
- *needs a lot of light or time*

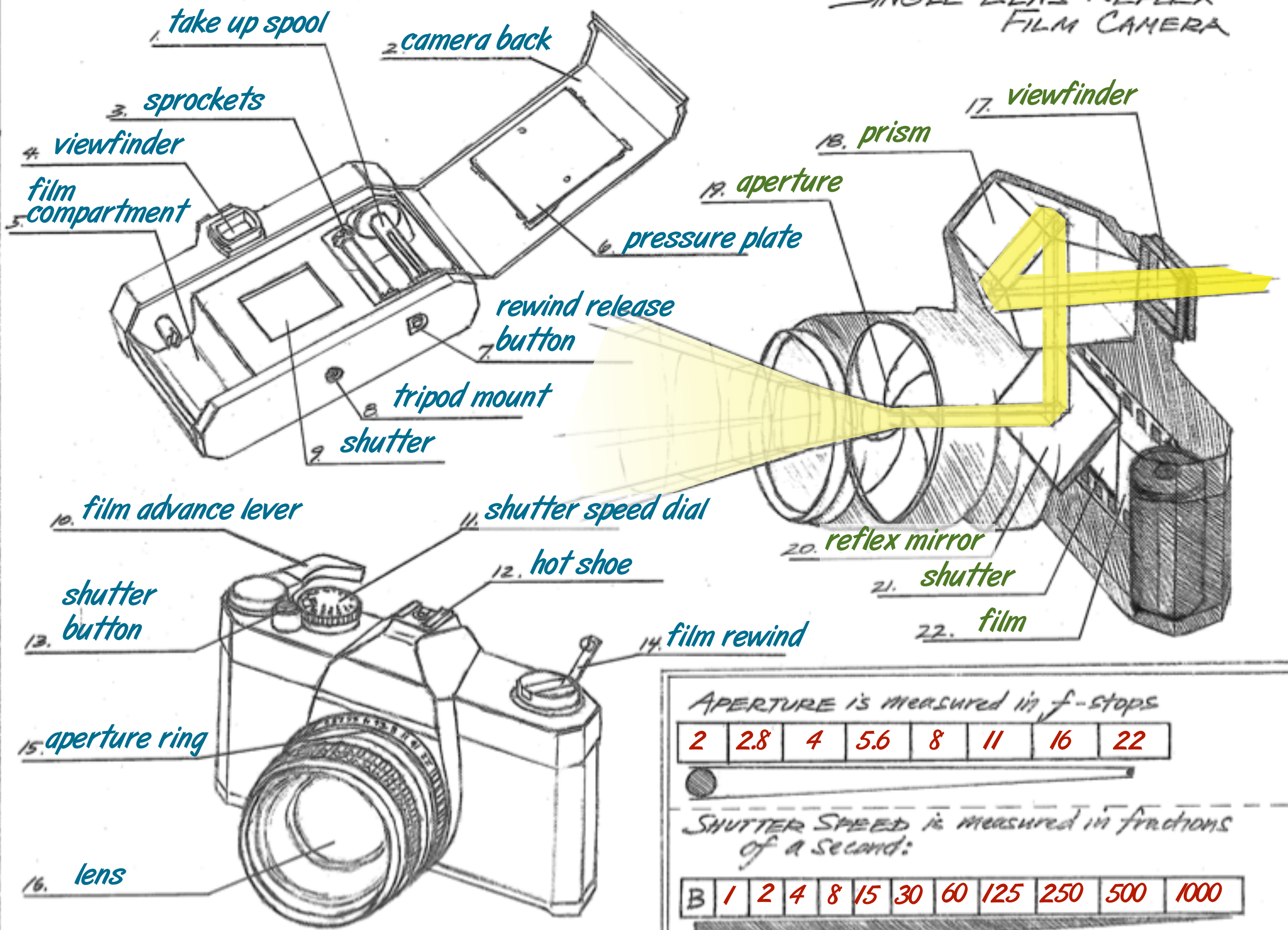HIGH speed film has ___BIG___ "pixels."
- *high light-sensitivity*
- *high contrast*
- *high visibility of grain ("pixels")*
- *needs less light or time*

parts of the camera

SINGLE LENS REFLEX FILM CAMERA

1. take up spool
2. camera back
3. sprockets
4. viewfinder
5. film compartment
6. pressure plate
7. rewind release button
8. tripod mount
9. shutter
10. film advance lever
11. shutter speed dial
12. hot shoe
13. shutter button
14. film rewind
15. aperture ring
16. lens
17. viewfinder
18. prism
19. aperture
20. reflex mirror
21. shutter
22. film

APERTURE is measured in f-stops

2	2.8	4	5.6	8	11	16	22

SHUTTER SPEED is measured in fractions of a second:

B	1	2	4	8	15	30	60	125	250	500	1000

parts of the enlarger
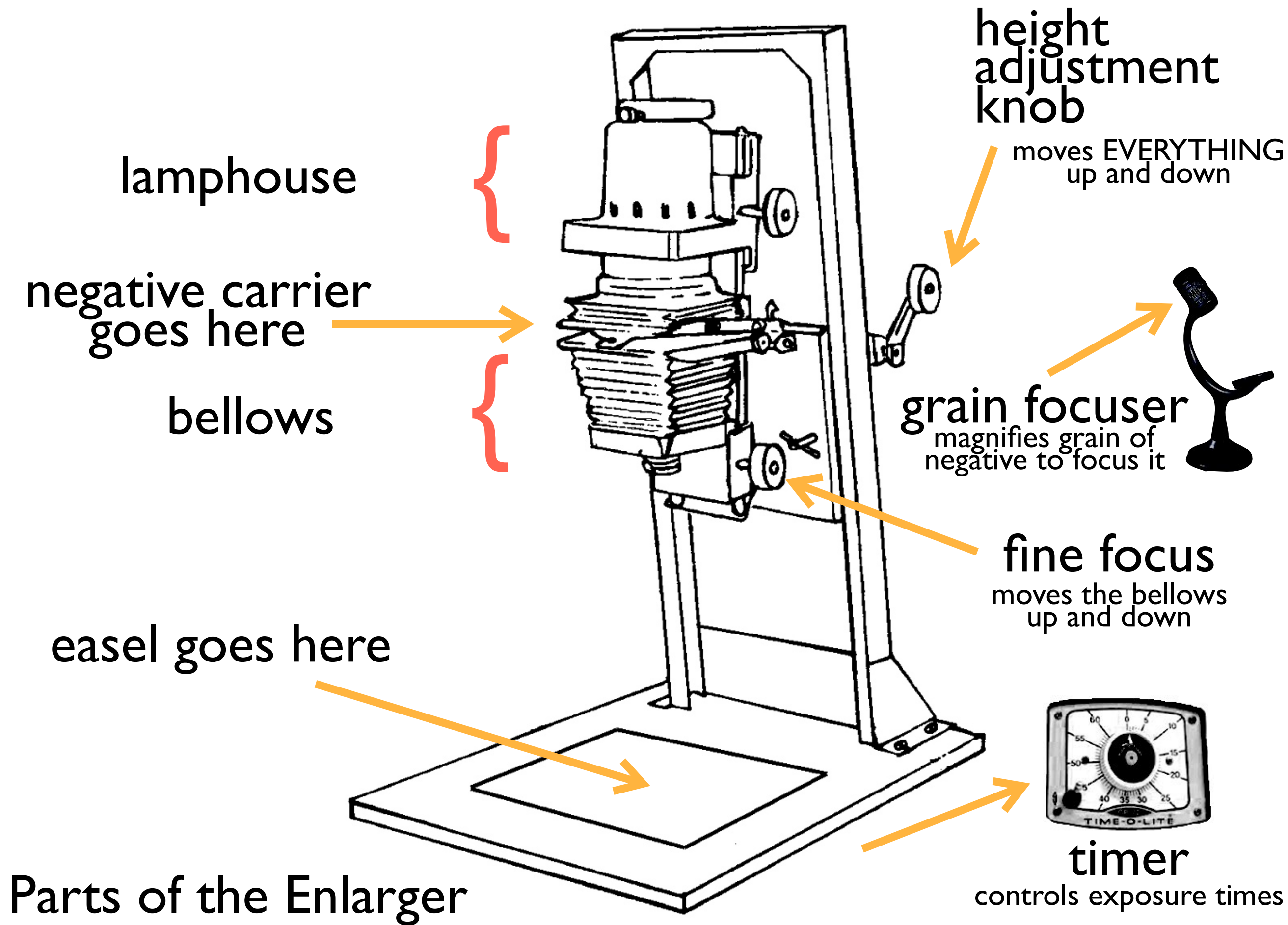
lamphouse

negative carrier goes here

bellows

easel goes here

height adjustment knob
moves EVERYTHING up and down

grain focuser
magnifies grain of negative to focus it
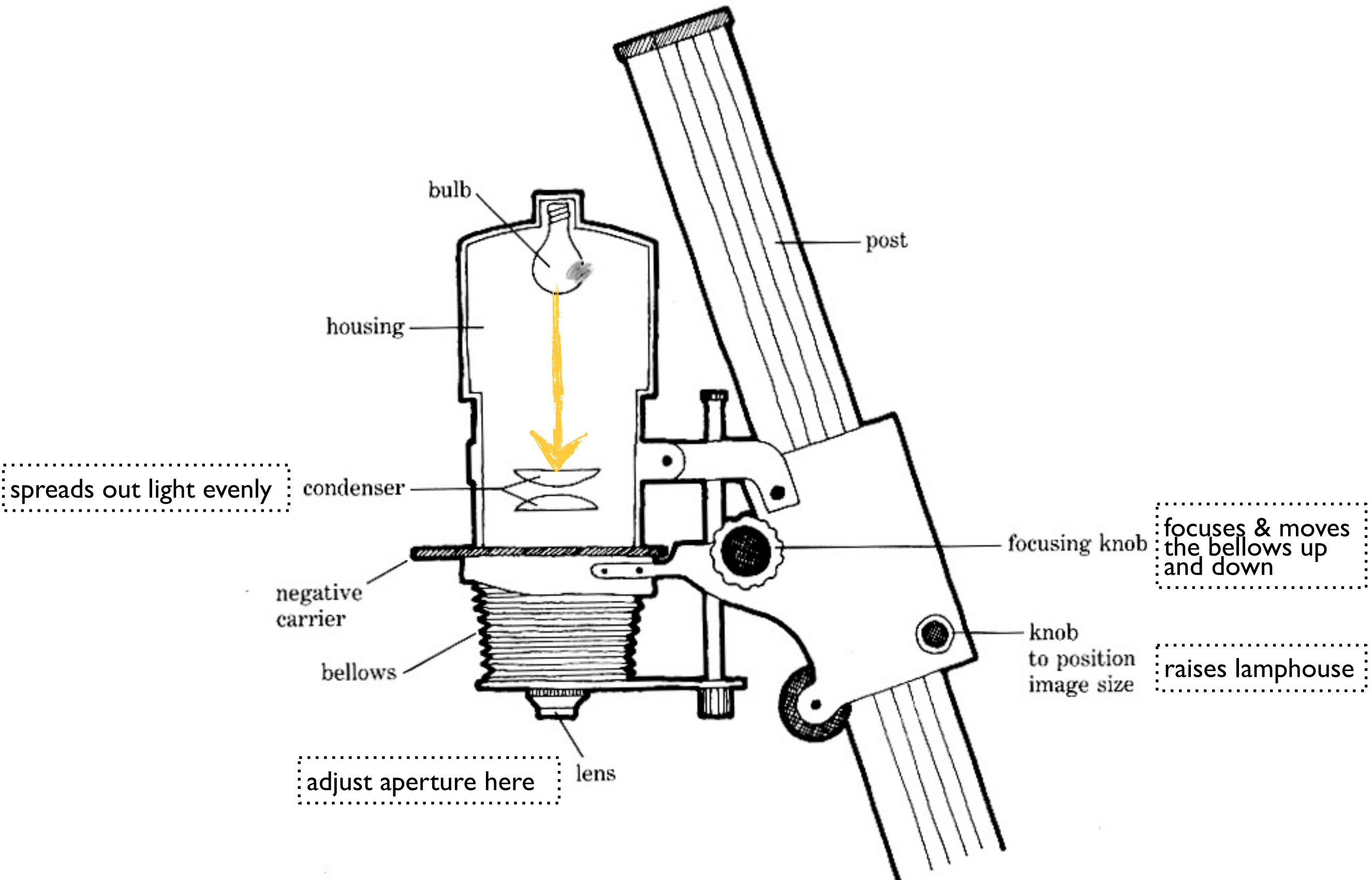
fine focus
moves the bellows up and down

timer
controls exposure times

Parts of the Enlarger

Parts of an enlarger

bulb

post

housing

condenser

spreads out light evenly

focusing knob

focuses & moves the bellows up and down

negative carrier

bellows

knob to position image size

raises lamphouse

adjust aperture here

lens

the easels

Easels

This is a __*CONTACT*__ easel.

It is used when making:
- *contact sheets*
- *pinhole positives*
- *collage negatives*
- *photograms*

This is a ___*PRINTING / MASKING*___ easel.

It is used when making:
- *enlargements from negatives*

It helps your prints have:
- *neat, white borders*
- *regular sizes*

dodging & burning

Dodge & Burn

Dodging and burning are darkroom (and Photoshop!) techniques used to change the exposure of PART of your image - when PART of an image is too light or too dark

To ___*DODGE*___ is to "protect" an area from light while you further expose the rest of the image.

To ___*BURN*___ is to further expose one specific area of an image to make it darker while you "protect" the <u>rest</u> of the image.

The arabber (fruit merchant) is too dark because of incorrect metering; but reducing exposure to the <u>whole</u> image in the darkroom would also get rid of what little detail there is in the background.

We should "protect" the arabber at a lower exposure, while further exposing the background.

This is called

<u>DODGING</u>

How to Dodge (a very basic tutorial)

but see how light the background is?

1. expose the image until you are happy with the arabber's levels
2. cut out a cardboard "protector" that is about the same size as the arabber
3. move the "protector" up and down under the enlarger lamp while exposing the background further
4. ta-da!

Dodging

before

after

For example: Dodge & Burn

The white floral arrangement in the lower right hand corner is far too light and takes away from the rest of the image, which is properly exposed. Increasing exposure to the <u>whole</u> image in the darkroom would make the majority of the image far too dark.

We should further expose ONLY the white flowers, while "protecting" the rest of the image.

This is called

BURNING

How to Burn (a very basic tutorial)

1. expose the image until you are happy with the levels in the majority of the image

2. cut out a cardboard "protector" that protects everything except the white flowers

3. move the "protector" up and down under the enlarger lamp while exposing the white flowers further

4. ta-da!

Burning

before

after

processing film

Loading Your Film:
What goes into the changing bag?

- *tank (including lid & post)*
- *2 reels*
- *film opener*
- *your film*

Processing Your Film (the condensed version)

1. Water Rinse!

 +

Processing Your Film (the condensed version)

2. The 1st chemical to go into your tank is _____DEVELOPER_.

Developer is dependent on

TIME and _TEMPERATURE_.

Processing Your Film (the condensed version)

3. The 2nd chemical to go into your tank is ___*STOP BATH*___.

What does stop bath do?

arrests the developing process

What can you substitute for stop bath?

water

Exhausted when?

turns purple

Processing Your Film (the condensed version)

4. The 3rd chemical to go into your tank is _____FIXER_____.

What does fixer do?
removes unexposed silver from the film

Fixer is the only chemical that cannot EVER be…
poured down the drain

Exhausted when?
Hypo Chek turns cloudy

Processing Your Film (the condensed version)

5. Water wash!

 +

Processing Your Film (the condensed version)

6. The 4th chemical to go into your tank is ___*PERMA WASH*___

What does Perma Wash do?

Perma Wash is like soap for your film - it removes the fixer and other gross things

Processing Your Film (the condensed version)

7. Water wash!

+
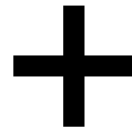
Processing Your Film (the condensed version)

8. The 5th chemical to go into your tank is *WETTING AGENT*.

What does Wetting Agent do? *WATER + WETTING AGENT prevents water spots from forming on your negatives, similar to that stuff at the end of a car wash or in your dishwasher*

PROBLEMS

Completely clear film except for the leader
and film info (film type and frame numbers):

Film never advanced in the camera

Completely clear film, even the leader and film info:
Used fixer before developer

Completely black film:

Film was accidentally exposed at some point

Bottom half of film is developed:
Film was on the top spool with only 10 oz. of chemicals

Film is cloudy and purple looking:
Not fixed long enough or fixer is exhausted

darkroom chemistry

water **fixer** **stop bath** **developer**

what do I do?

cleans the print
(washes off all
the chemicals)

stabilizes
the image
(removes unexposed
silver from the paper)

stops the
developing
(low pH = acid,
neutralizes the
developer)

develops the paper
(oxidizes silver)
(pH 11 or 12 = base)

how long?

5 minutes

3 minutes

30 sec

1 1/2 minutes
(90 sec)

I am exhausted and
should be replaced
when...

N/A

if I get cloudy when
you drip hypo check in

if I am a dark
purple color

if I am a brown color

sink
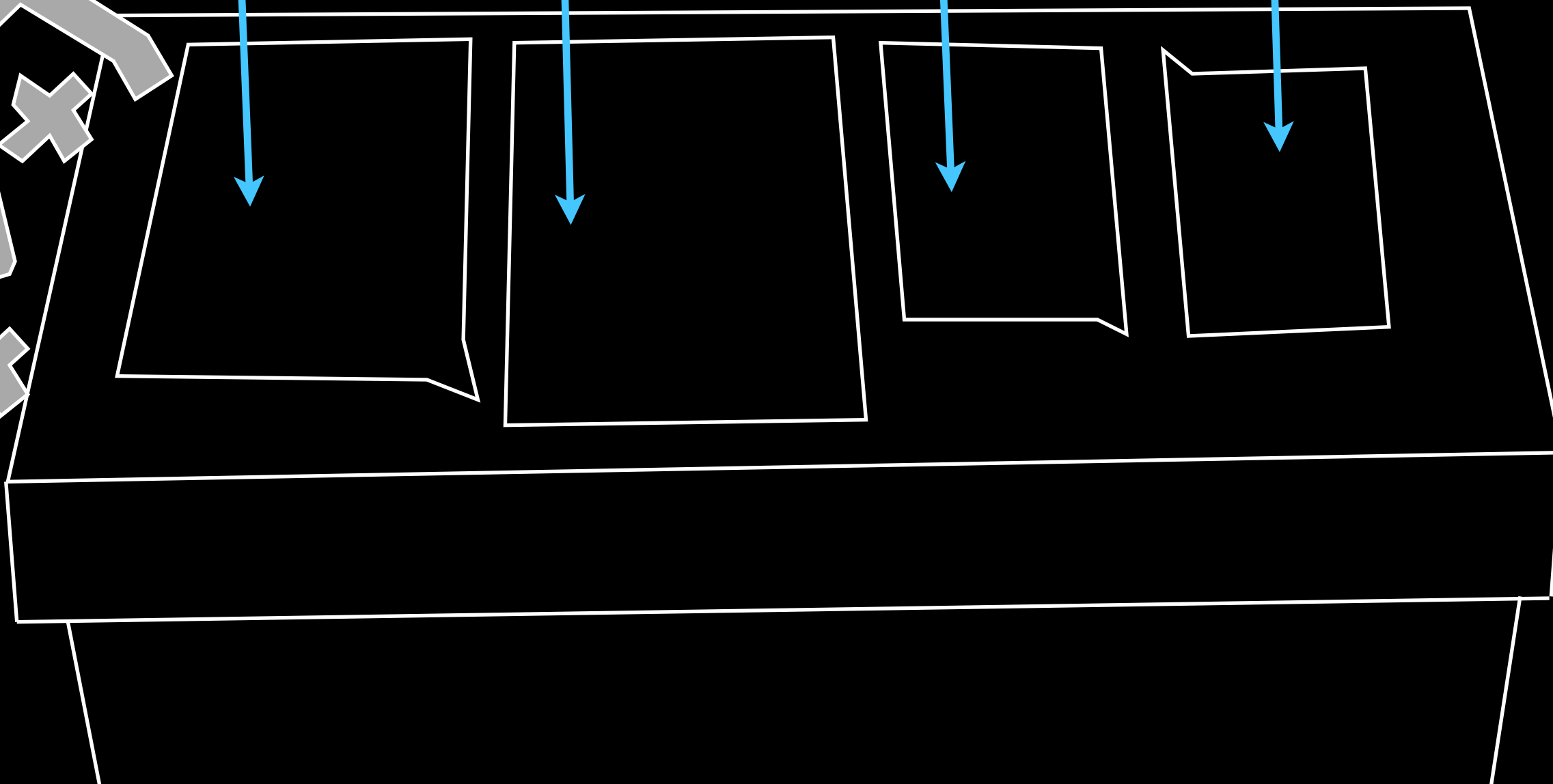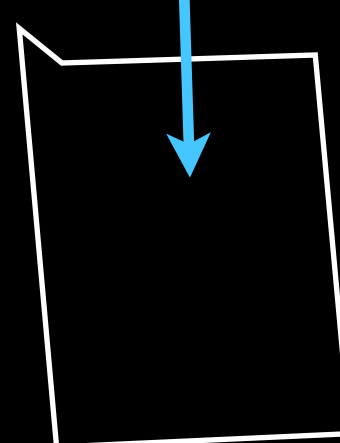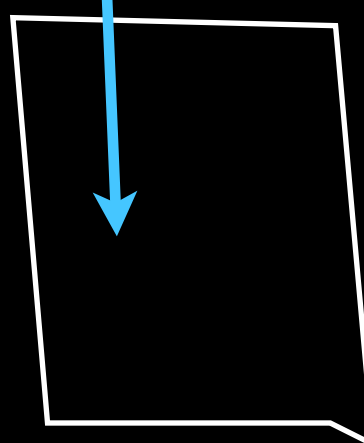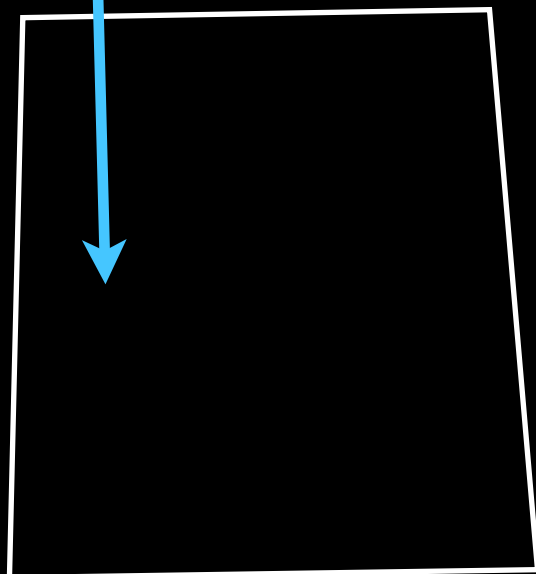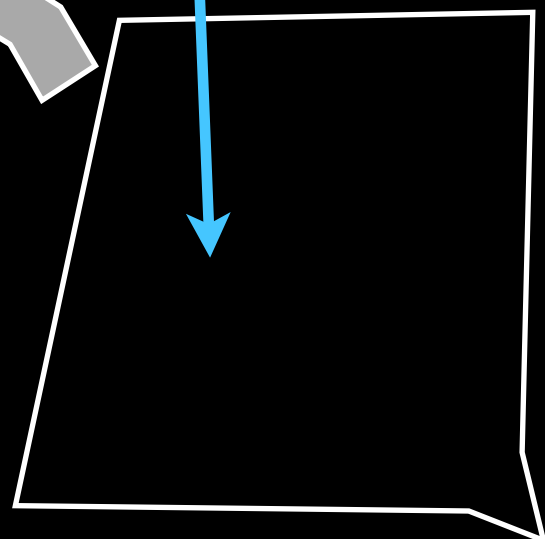
Photoshop

(but only a few things)

I want to <u>select</u> an area of my image (because then I can copy it, delete it, or change it!)

What are some ways I can do this?
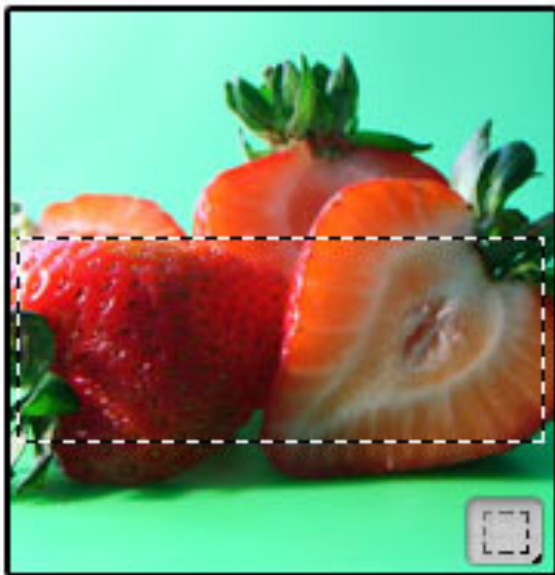
The marquee tools make rectangular, elliptical, single row, and single column selections.

The lasso tools make freehand, polygonal (straightedged), and magnetic (snap-to) selections.

The Quick Selection tool lets you quickly "paint" a selection using an adjustable round brush tip.

I just want to <u>MOVE</u> something, and it isn't working, and I want to destroy the computer. (I feel this way sometimes too.)

How can I make it move?

The **Move tool** moves selections, layers, and guides.

I want to <u>restore / touch-up</u> an area of my image.

What are some ways I can do this?

The Clone Stamp tool paints with a sample of an image.

The Healing Brush tool paints with a sample or pattern to repair imperfections in an image.

The Spot Healing Brush tool quickly removes blemishes and imperfections from photographs with a uniform background.

The Patch tool repairs imperfections in a selected area of an image using a sample or pattern.

I want to <u>add text</u> to my image.

What is one way I can do this?

T The type tools create type
on an image

Ok. It's time to save my image. What should I consider?

Do I have separate layers that I want to KEEP separate (in case I want to make changes later)?

- *save as a .PSD (Photoshop document) to preserve layers and other options*
- *.PSDs are totally awesome, but they are also large and not Internet-friendly*

A tool isn't working what could be wrong?

make sure I'm in the right layer

Do I want to post the image on the Internet? (example: Mahara)

- *you need to "flatten" the image: Layer>Flatten Image*
- *and save it as a .JPG File File>Save As...   Format: JPEG*

Then what?

save it to the desktop AND then drag it to my folder in the dock.
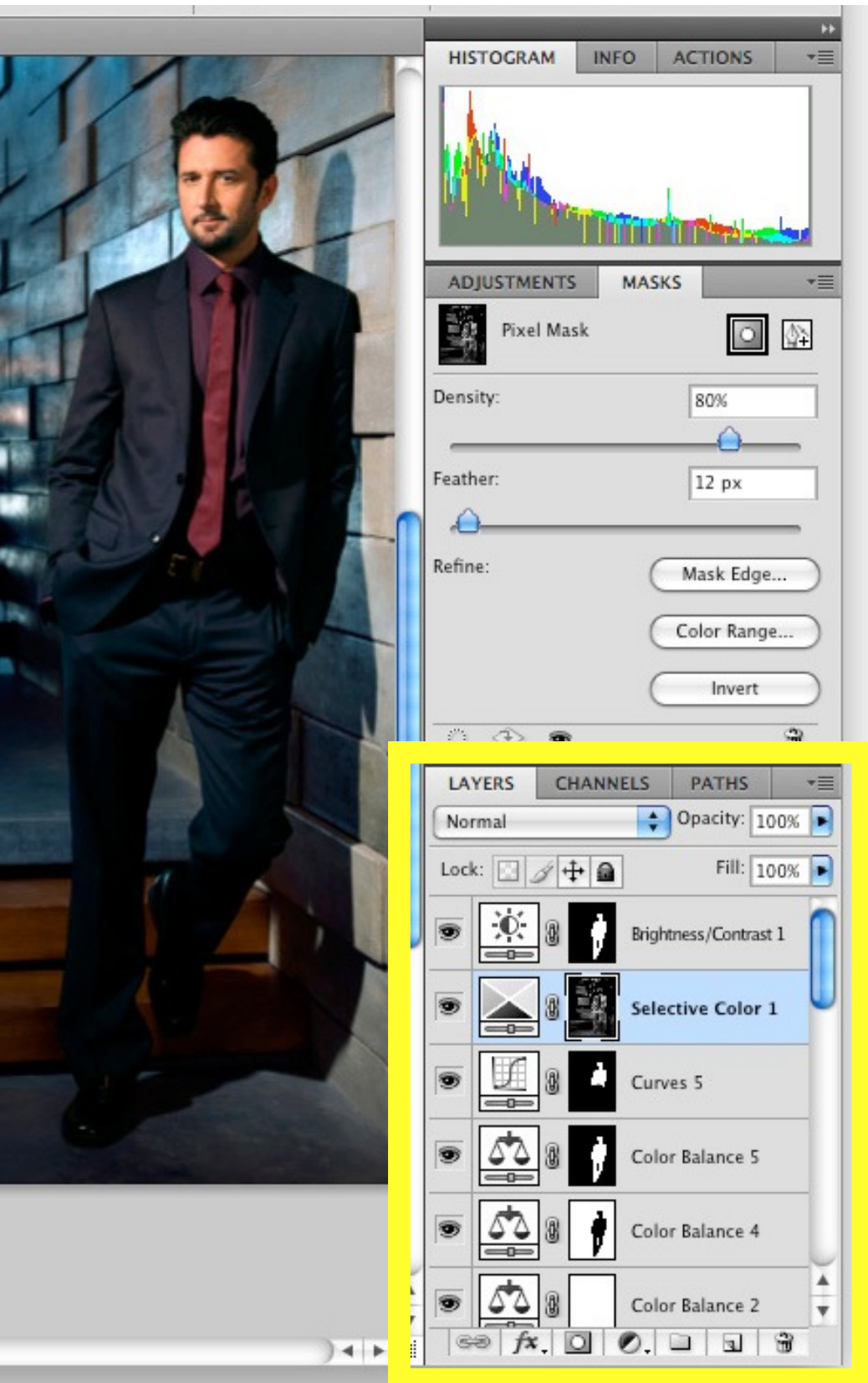
principles of composition

(review these by clicking on the "Principles of Composition" tab at the top of our class blog)