ISO
and
Light Meter

ISO

Film Speed

ISO and ASA

- ISO – International Standards Organization
- ASA – American Standards Association

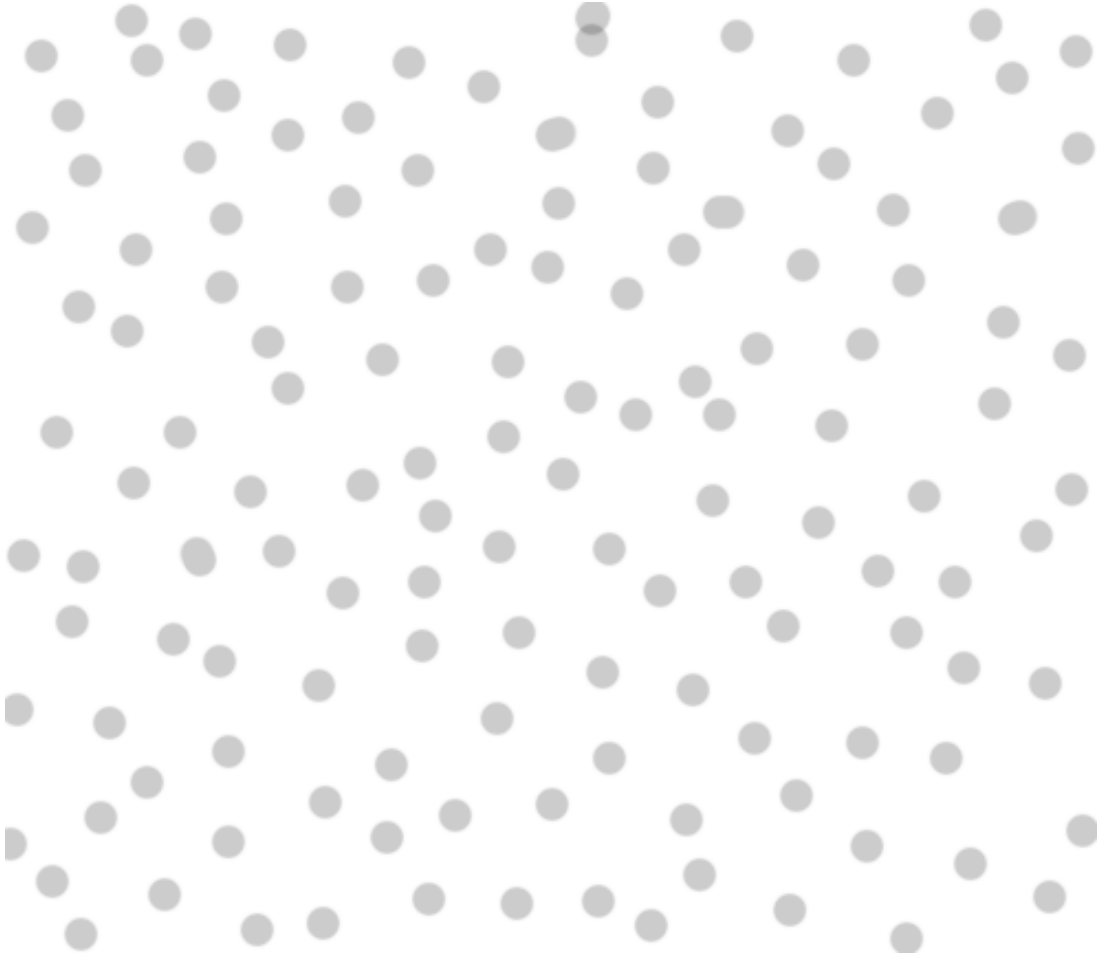
ISO rating on your film

- ISO designates the film’s degree of sensitivity to light
- Higher number ISOs mean more sensitive to light – can be used in lower light settings (generally)
- Lower number ISOs mean it is less sensitive to light and is used for brighter settings (generally)

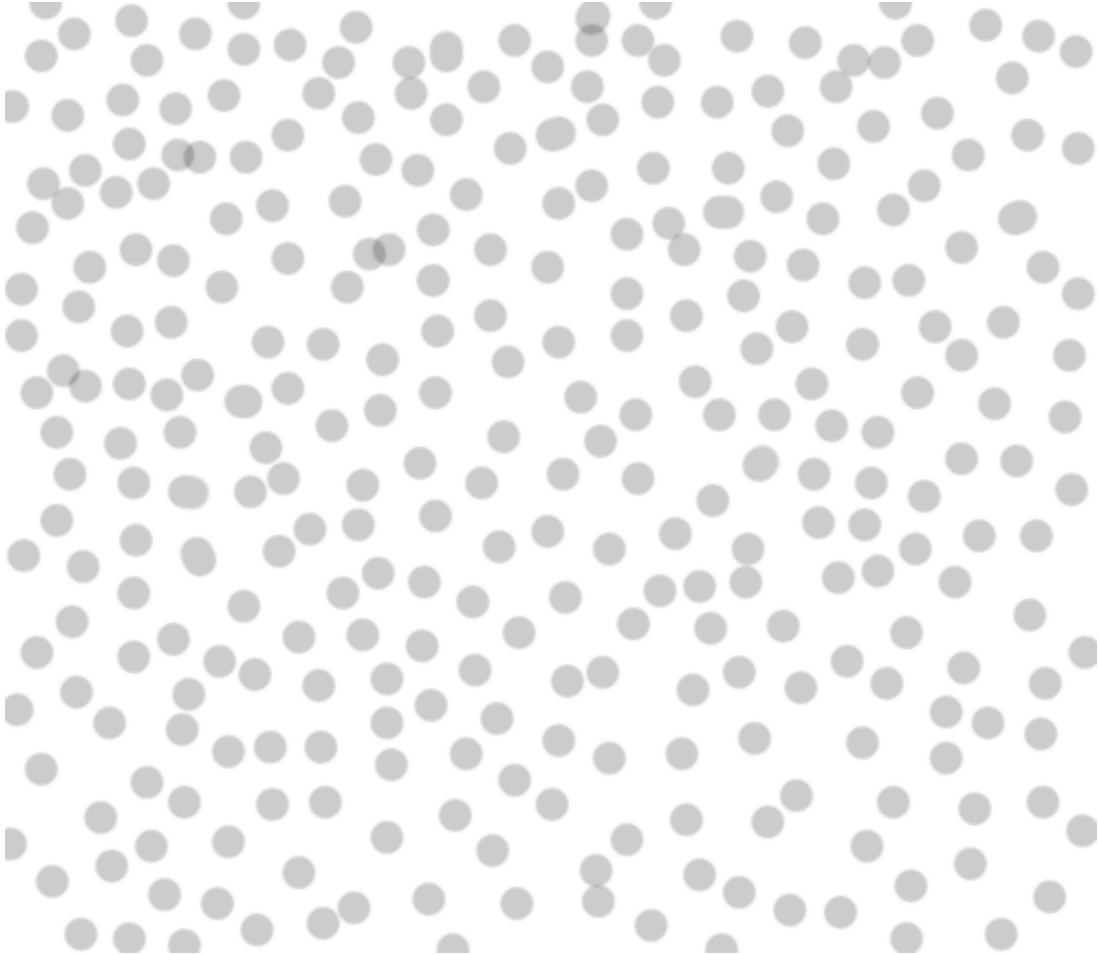
ISO Sensitivity

- The sensitivity of film to light has to do with the density of the silver halides on the film

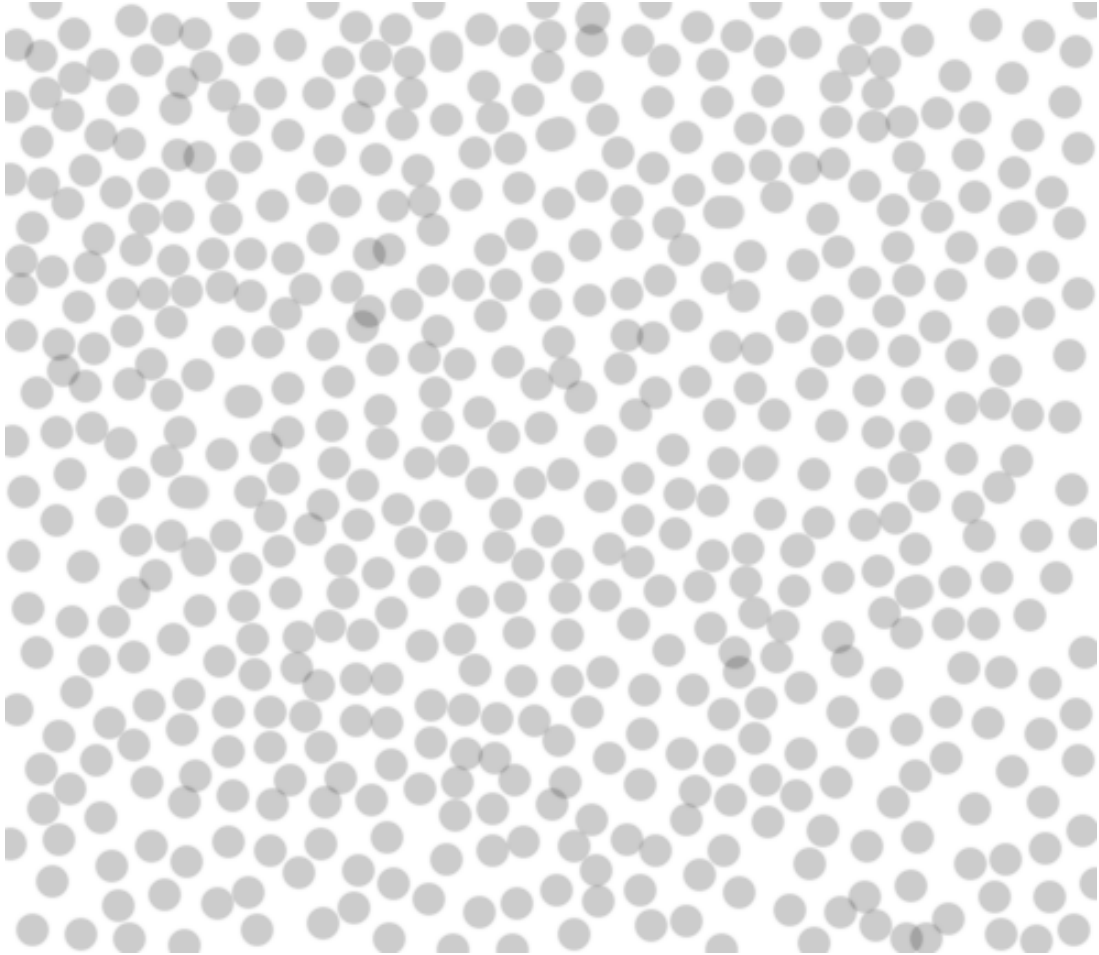
800 ISO



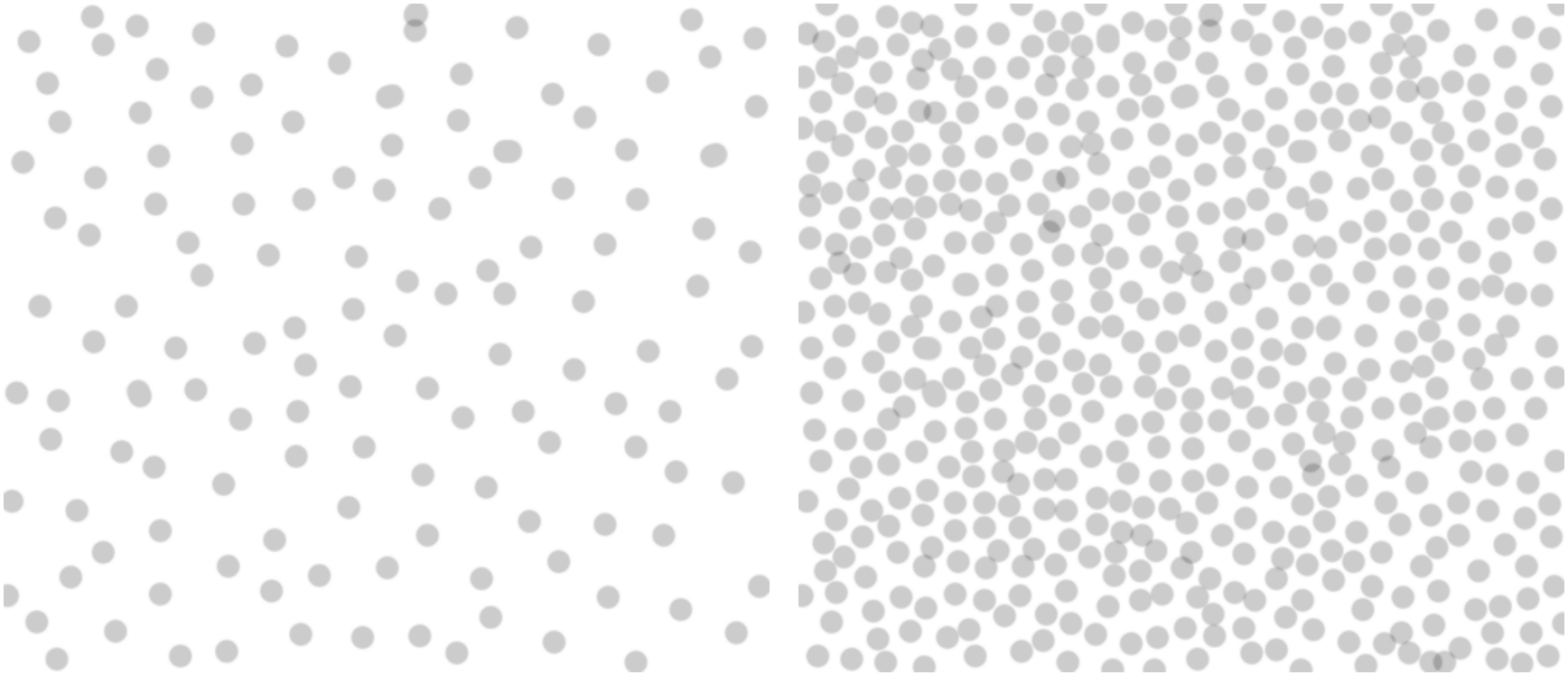
400 ISO

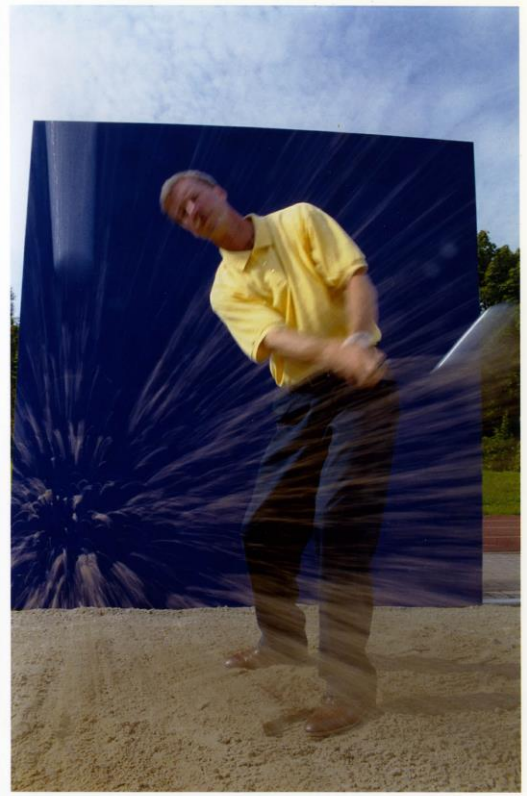


100 ISO



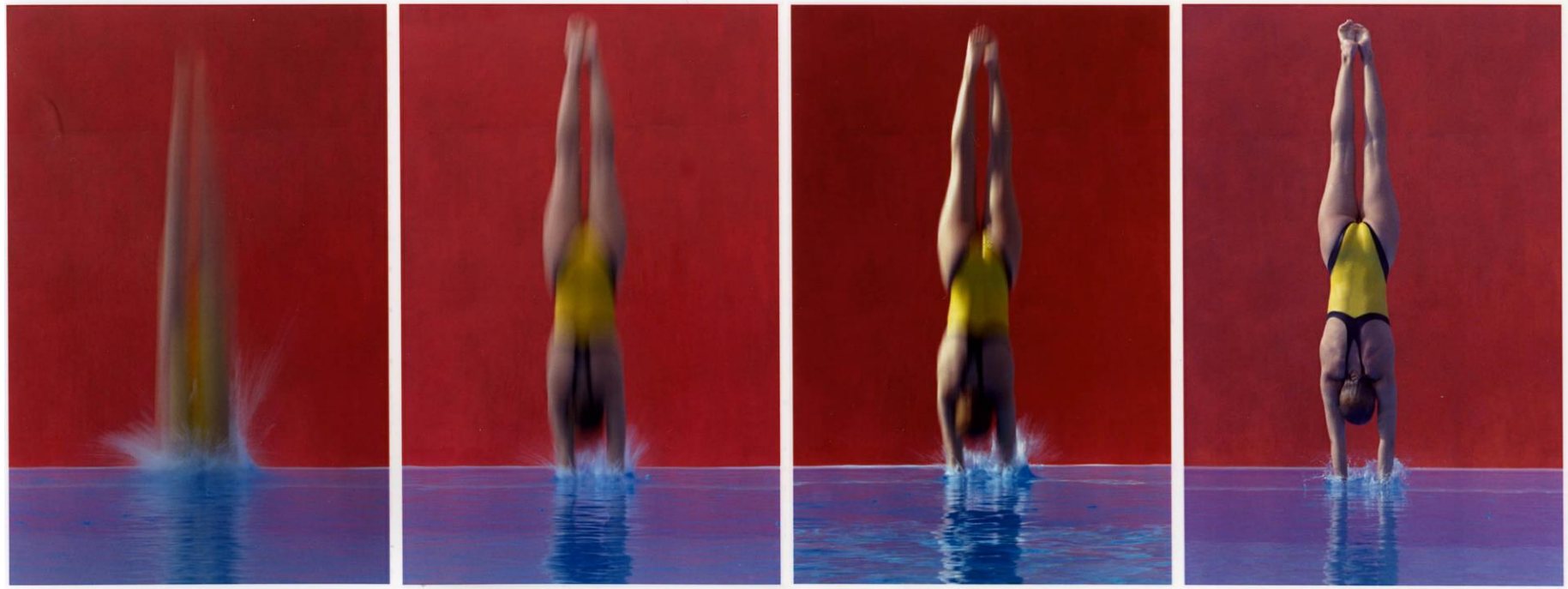
Low Density High Density





100 Speed Film

Kodak Max Versatility Plus 800 Speed



100 Speed Film

200 Speed Film

Kodak Max
Versatility Plus
400 Speed

Kodak Max
Versatility Plus
800 Speed

100 Speed Film

200 Speed Film

Kodak Max
Versatility Plus
400 Speed

Kodak Max
Versatility Plus
800 Speed

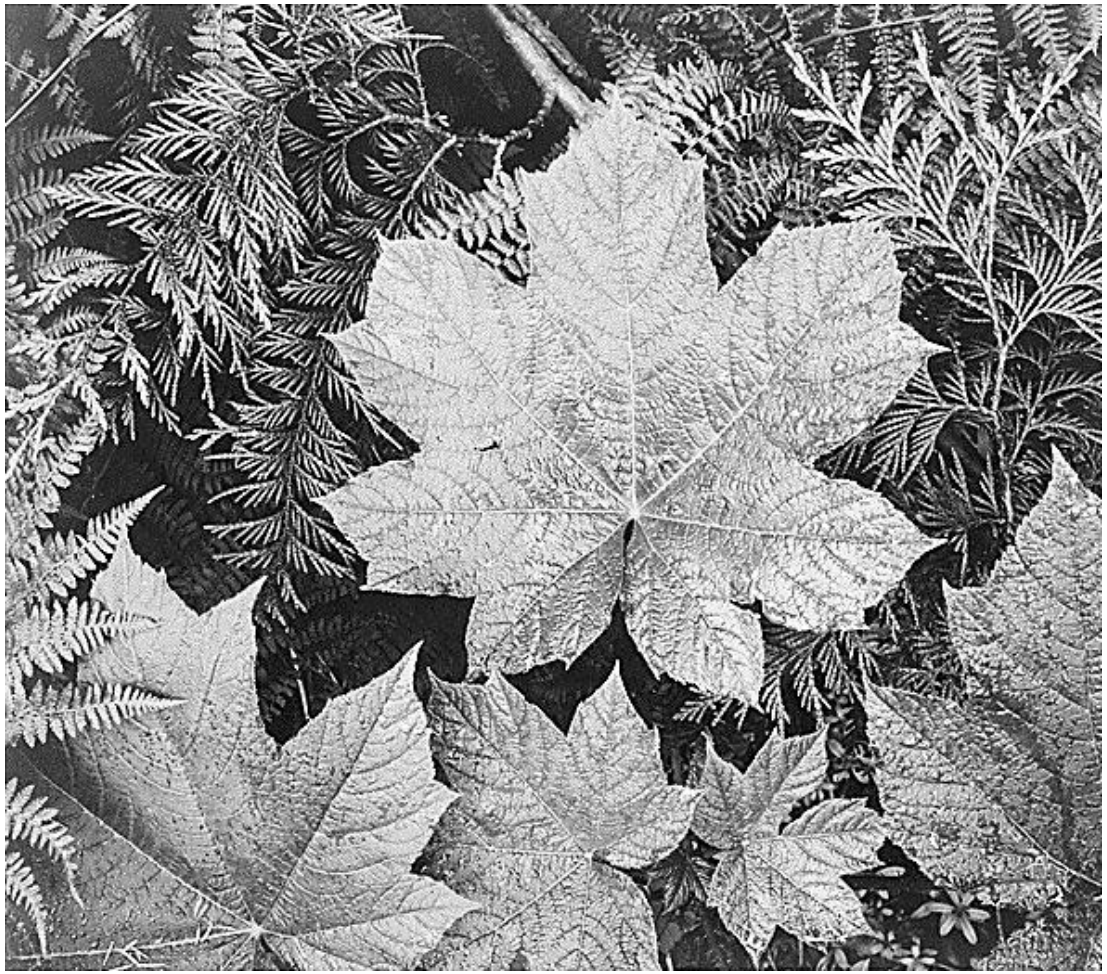
How does ISO affect print quality

- Lower ISO films are more dense, and thus are less grainy when made into a print

- Higher ISO film are less dense, and thus can be more grainy when enlarged

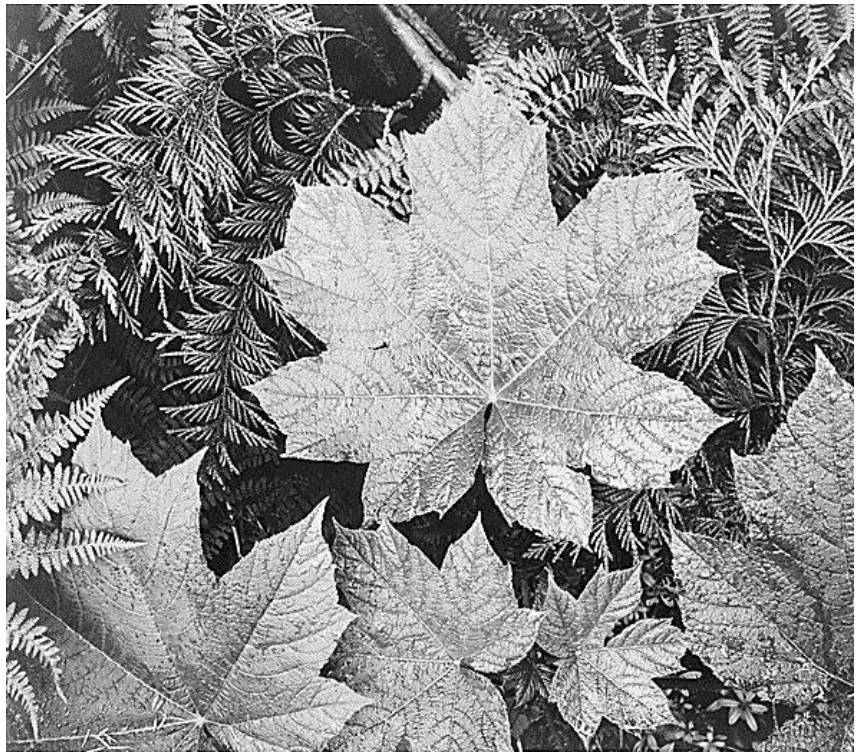
High ISO (maybe 1600 ISO)

Low ISO (maybe 64 ISO)

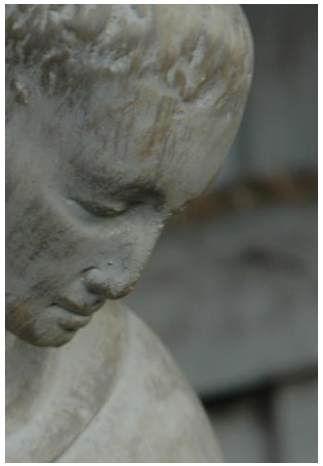


Ansel Adams

Low Density High Density

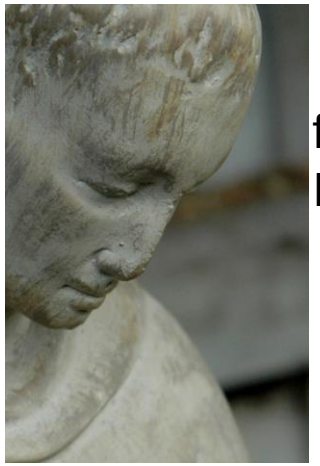


Higher ISO allows for faster shutter speeds but noise can be created

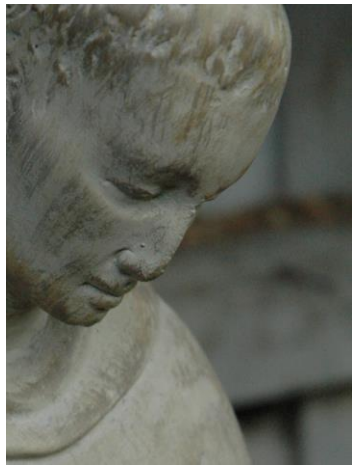


f/5 @ 1/60 (slow)
ISO 200 (lower number)

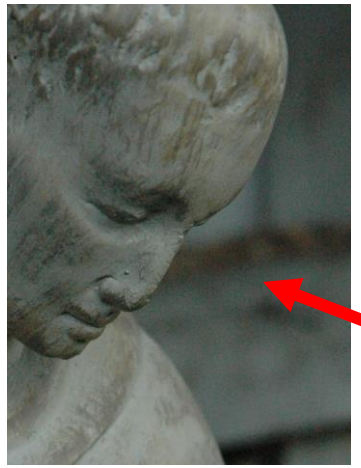
(aperture setting remains constant)



f/5 @ 1/80 (a little faster)
ISO 400 (a little higher)



f/5 @ 1/200 (faster)
ISO 800 (higher)



f/5.0 @ 1/400 (quite fast)
ISO 1600 (much higher)

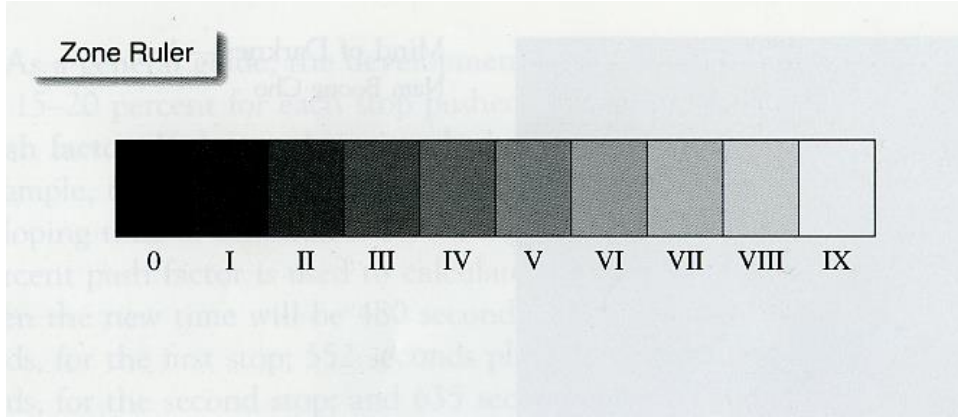
More noise present

Changing ISO

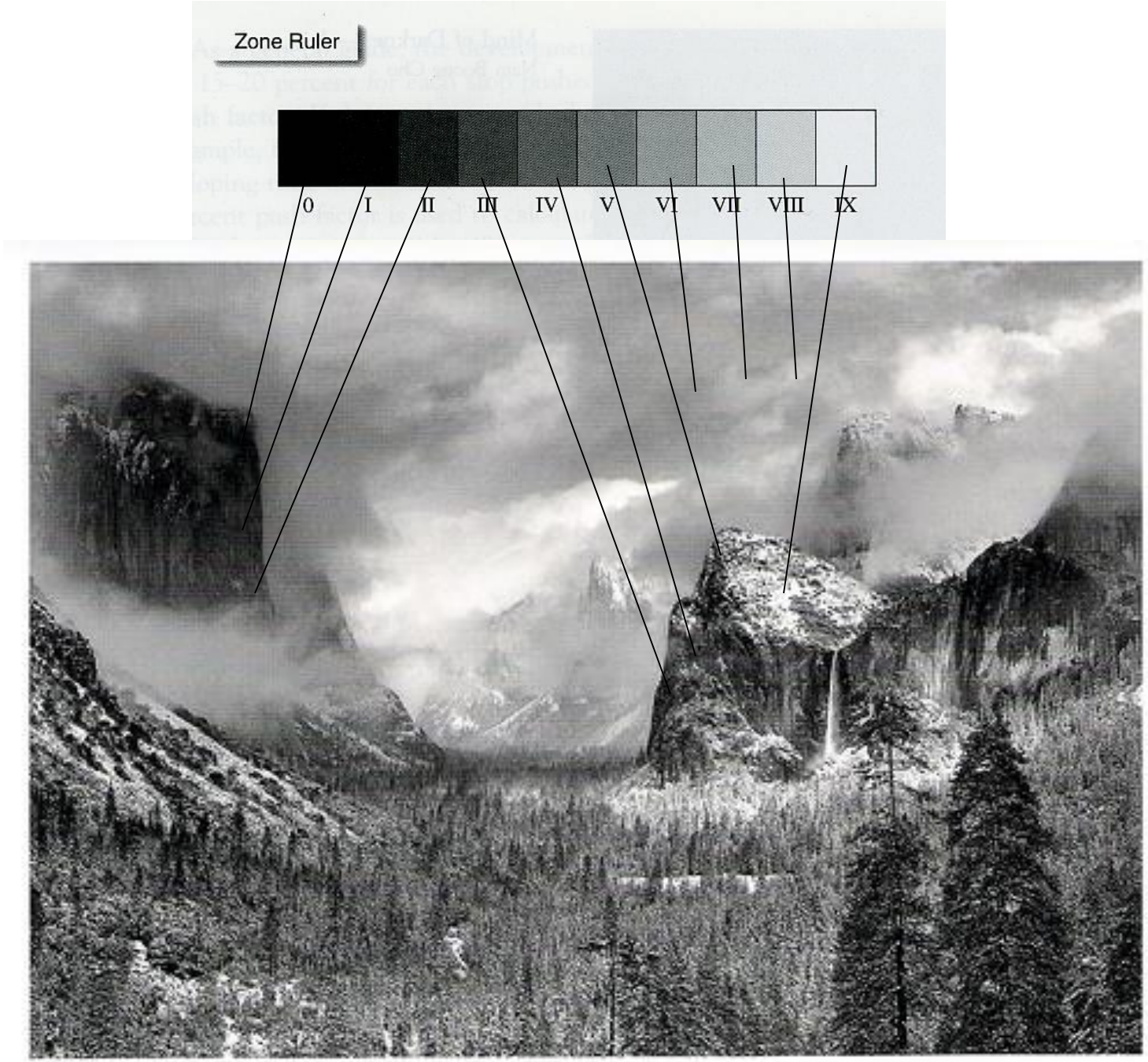
- **ISO** can be changed depending on lighting conditions – development time must be altered accordingly (called a push or pull)
- **ISO** (generally) should not be changed in the middle of a shoot on a film camera
- **ISO** may be changed from exposure to exposure on a digital camera

Light Meter

- Purpose = tells you how much light is being allowed into the camera based on the current APERTURE, SHUTTER SPEED, and ISO settings
- Averages all light in scene to 18% gray which is ZONE V on Zone system scale
- Is correct most of the time

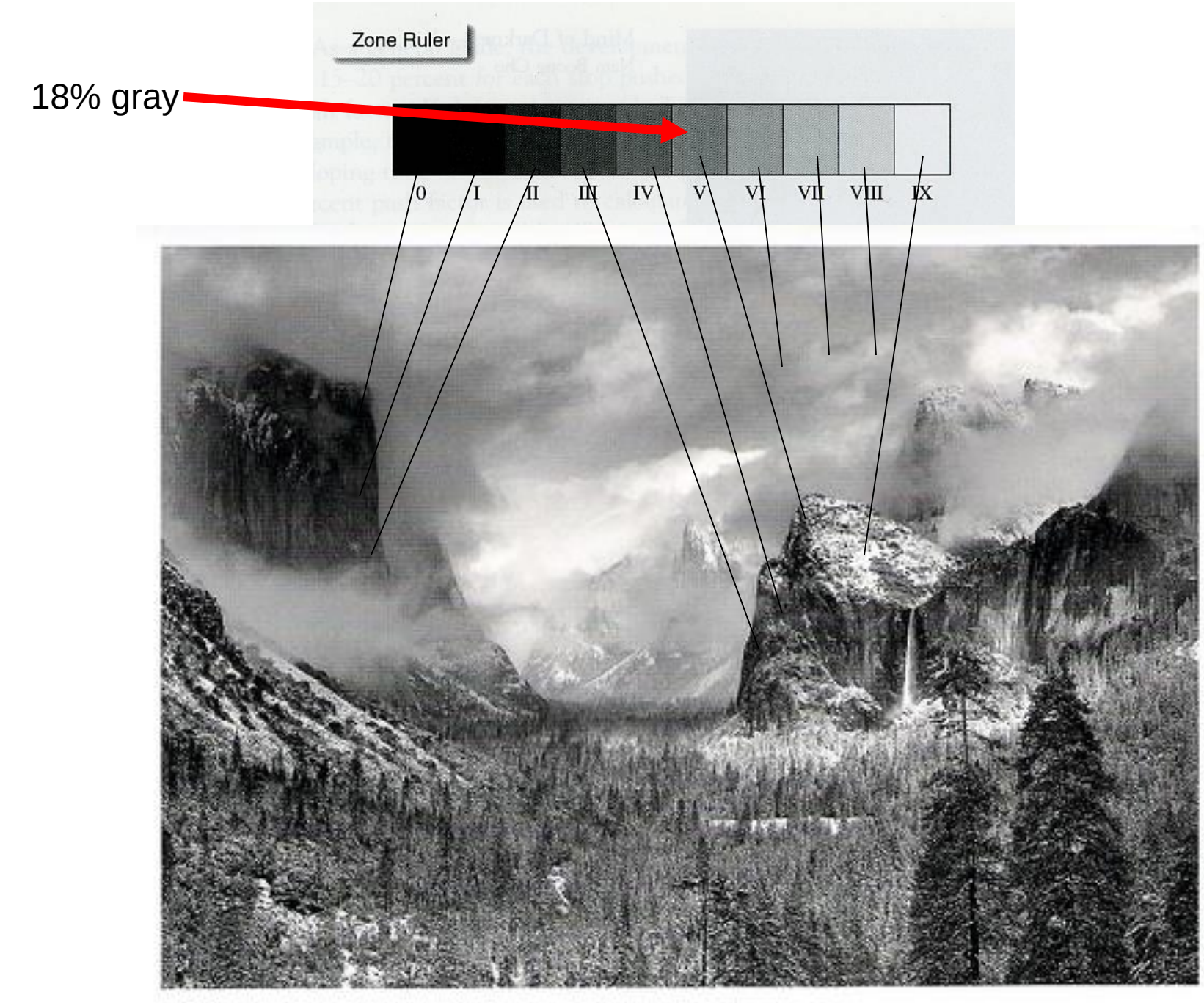


ZONE	DESCRIPTION
0	Maximum black
I	The first tone distinguishable from black with no detail
II	The first visible texture in a very dark area
III	Black with detail—a highly textured dark area with distinct detail; this zone is considered the shadow detail area for average value metering
IV	Dark gray
V	Middle gray, with 18 percent reflectance
VI	Light gray
VII	White with detail; the lightest area in the photograph that will have distinct texture or detail; this is the highlight area for the average value method
VIII	The brightest tone distinguishable from white
IX	Paper white


Zone Ruler
0
I
II
III
IV
V
VI
VII
VIII
IX

18% gray

- Tone to which all light meters average the light given off by the scene which is being photographed


18% gray
Zone Ruler
0
I
II
III
IV
V
VI
VII
VIII
IX

What Light Meters Look Like

What Light Meters Look Like

Shutter or f-stop reading light meter

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

- 22
- 16
- 11
- 8
- 5.6
- 4
- 2.8

Needle light meter