

(NOT SAILOR MOON)

1/2



THE MOON



Event Horizon - Moon 503-277-1779 - All rights reserved - For our customer's private use only

☐ PHASES OF THE MOON - PHENOMENA TO EXPLAIN 5-2
THE x.p. 3

"PHASE" \approx "STAGE" OR HOW MUCH IS LIT UP?

NAME	NEW	"CRESCENT" WAXING	"HALF" OR 1 ST QUARTER	"GIBBONS" WAXING	FULL
SHAPE					
DAY	0	3 1/2	7	10 1/2	14
NAME	GIBBONS WANING	3 RD QUARTER	CRESCENT WANING	NEW ... OR OLD?	
SHAPE					
DAY	17 1/2	21	24.5	28	

WAXING: GROWING-
"STRONG"
WANING: GROWING-
"WEAK"

WHY SHOULD
IT BE SO?

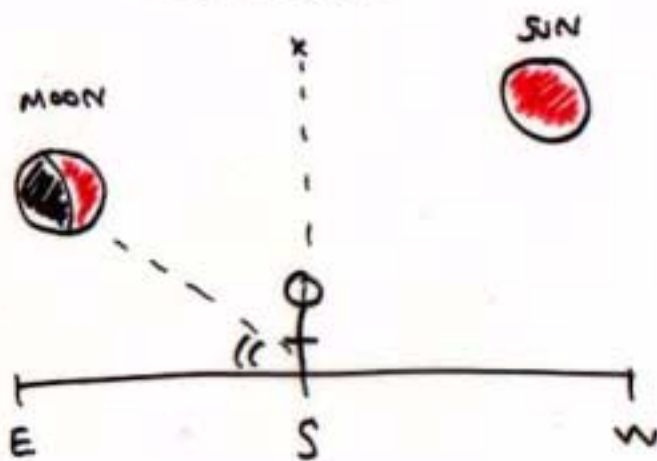
PATTERNS IN
SHAPE.

PATTERN IN
TIME: PERIOD
 \approx 28
DAYS

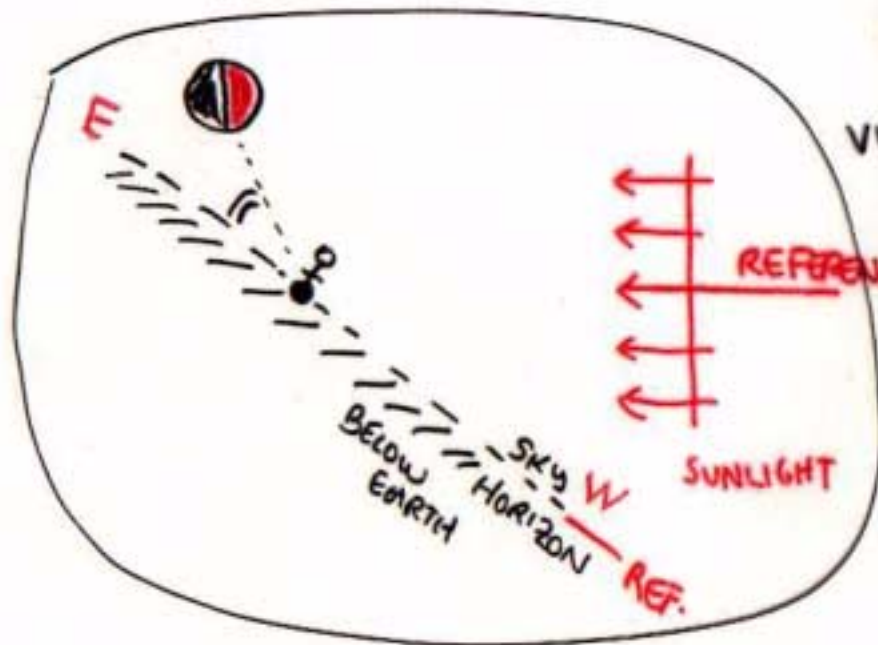
□ EARTH - MOON - SUN GEOMETRY

5-6

OBSERVED:



3 pm SUN + MOON
IN SKY TOGETHER.



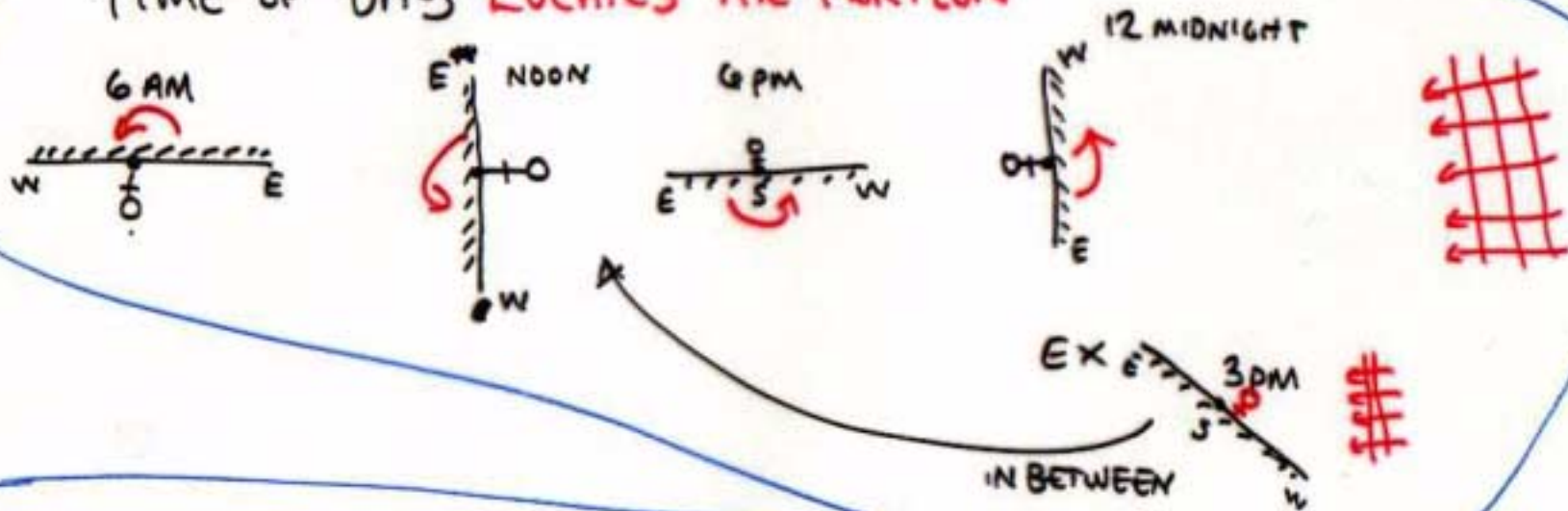
HALF OF THE MOON
ALWAYS LIT BY
THE SUN.

VIEW FROM
NORTH POLE
OF EARTH,
LOOKING
"OVER SHOULDER"
OF SOUTH-FACING
OBSERVER.

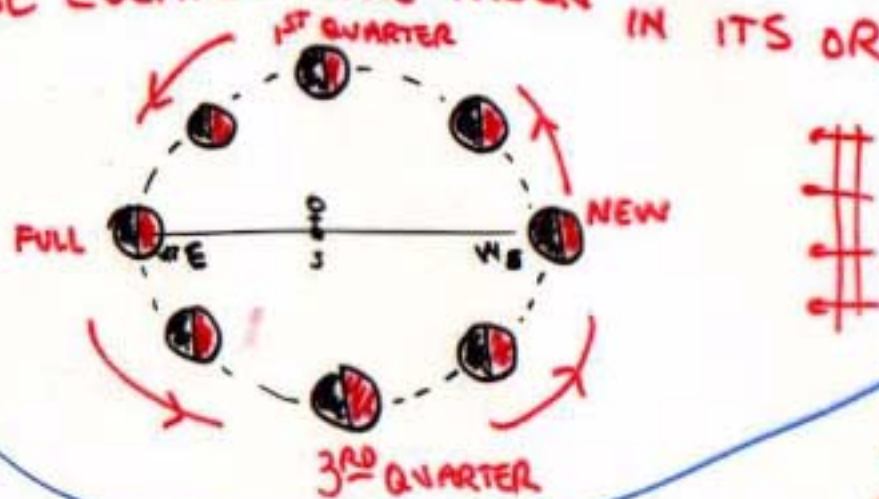
- 2 IMPORTANT
REF. LINES
- ① TOWARD SUN
 - ② HORIZON

□ TIME OF DAY + PHASE OF MOON

TIME OF DAY LOCATES THE HORIZON



PHASE LOCATES THE MOON IN ITS ORBIT



THEXP. # 3

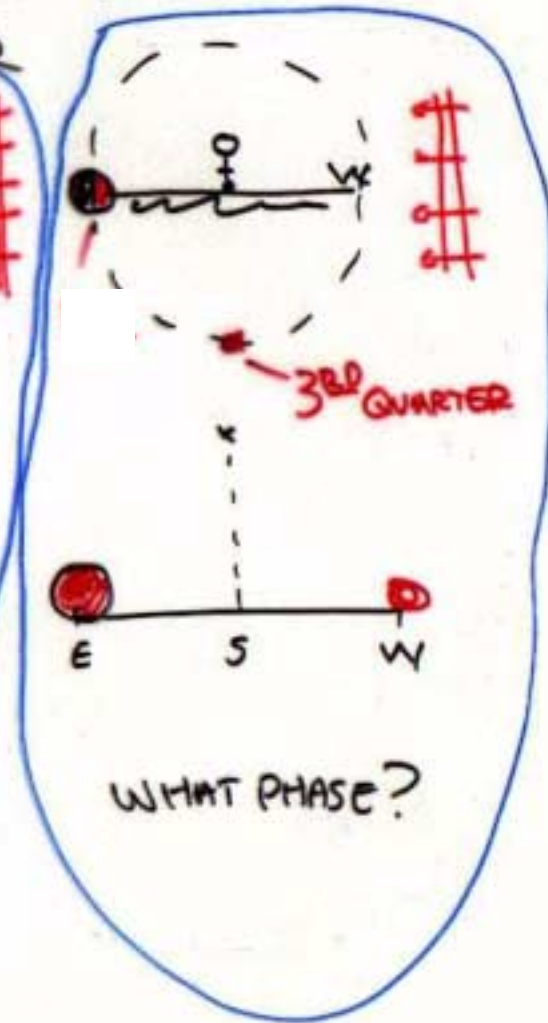
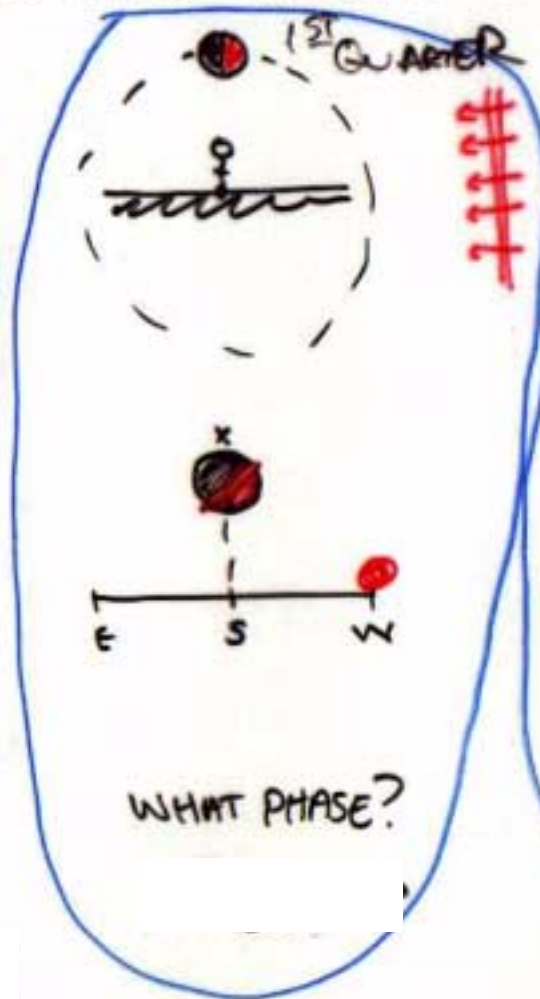
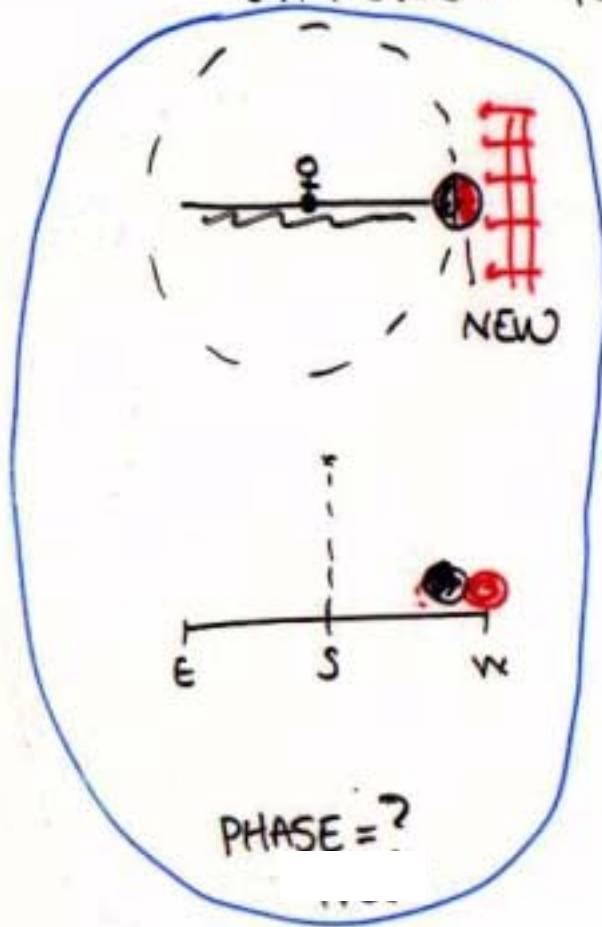
IMPORTANT TO
RECORD TIME OF DAY
AND PHASE YOU SAW!

- > LOOK IN PAPER.
- > LOOK AT MY PAPER.
- > MAKE SKETCH!

□ EXAMPLES

SAME TIME OF DAY - SUNSET

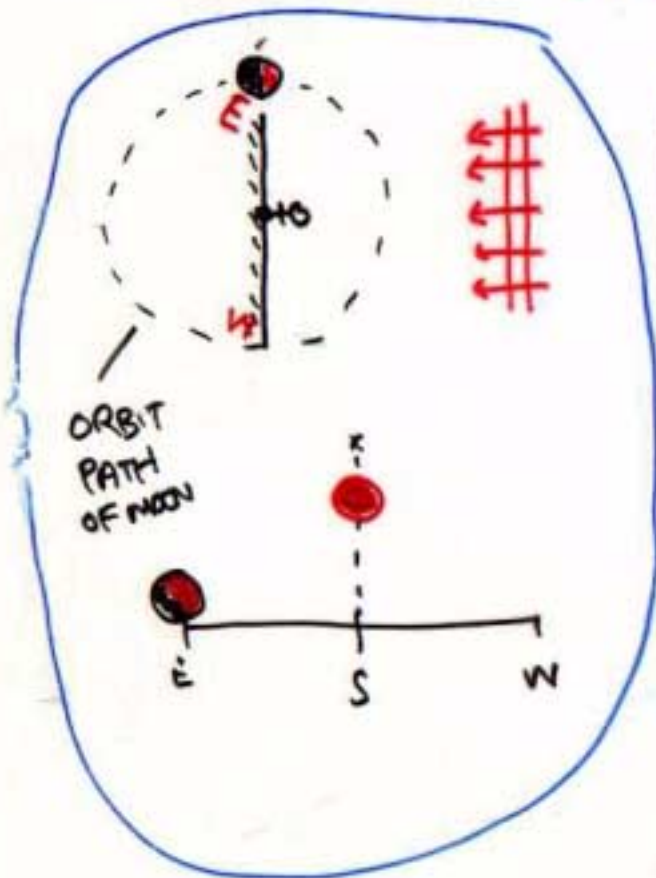
DIFFERENT POSITIONS - PHASES OF THE MOON:



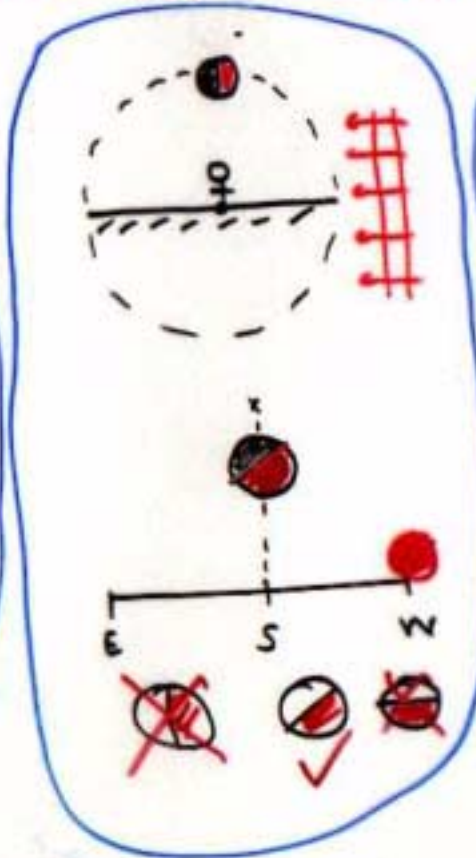
□ EXAMPLES

DIFFERENT TIMES OF DAY

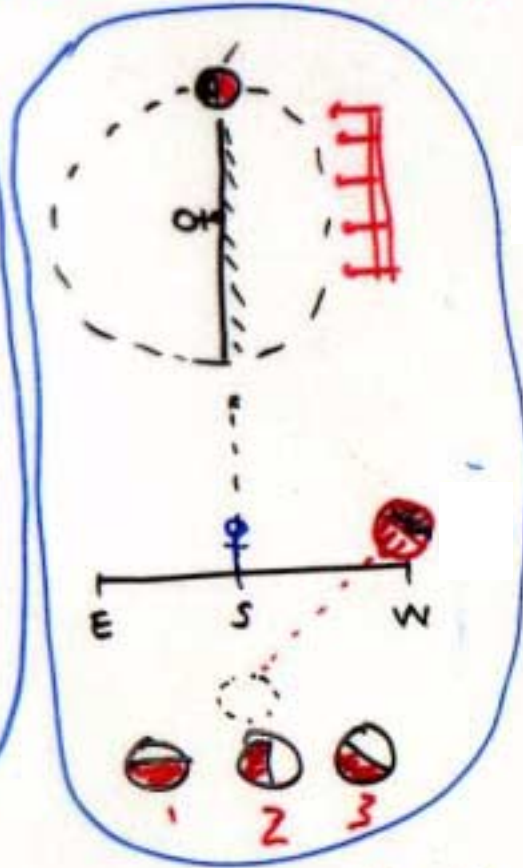
FOR THE SAME PHASE - POSITION - OF THE MOON



TIME OF DAY?



TIME OF DAY?



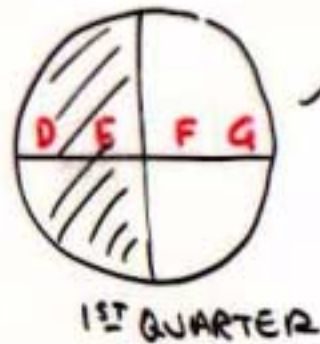
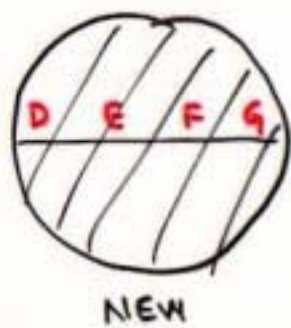
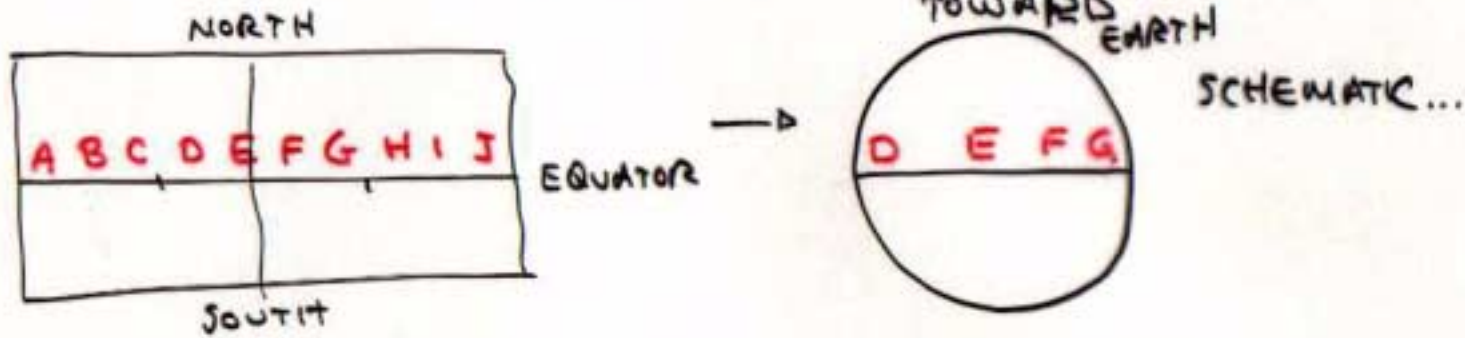
TIME OF DAY?

http://www.csulb.edu/~gpickett/ps112_ems.html

□ FACE ON THE MOON

5-14 + 5-15

ALWAYS KEEPS SAME HALF TOWARDS THE EARTH!



→ FULL

THIS IS THE OBSERVATION IN THE exp. # 4.

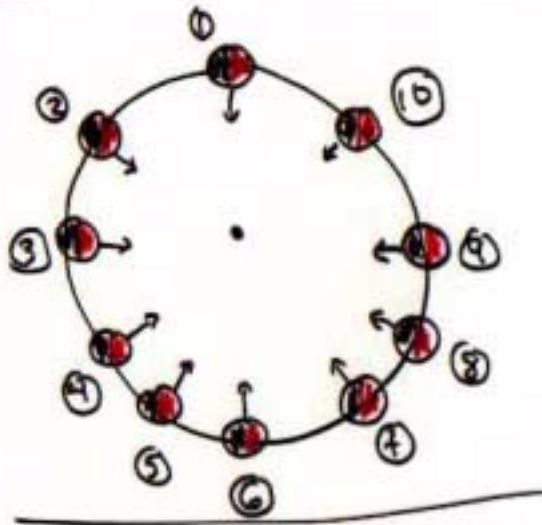
How CAN IT BE SO?

THE MOON ROTATES.

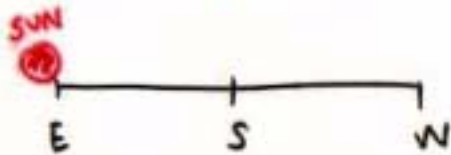
**BUT, I DON'T SEE
A B C D E F... WRITTEN ON
THE SURFACE OF THE MOON!?!
- MAKE A "ROUGH SKETCH" OF
DARK + LIGHT PATTERN YOU SEE**

□ ROTATING ~~MOON~~ MOON:

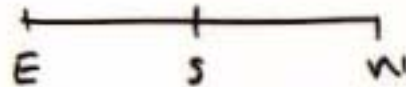
5-15



① ON MOON.
EARTH



③



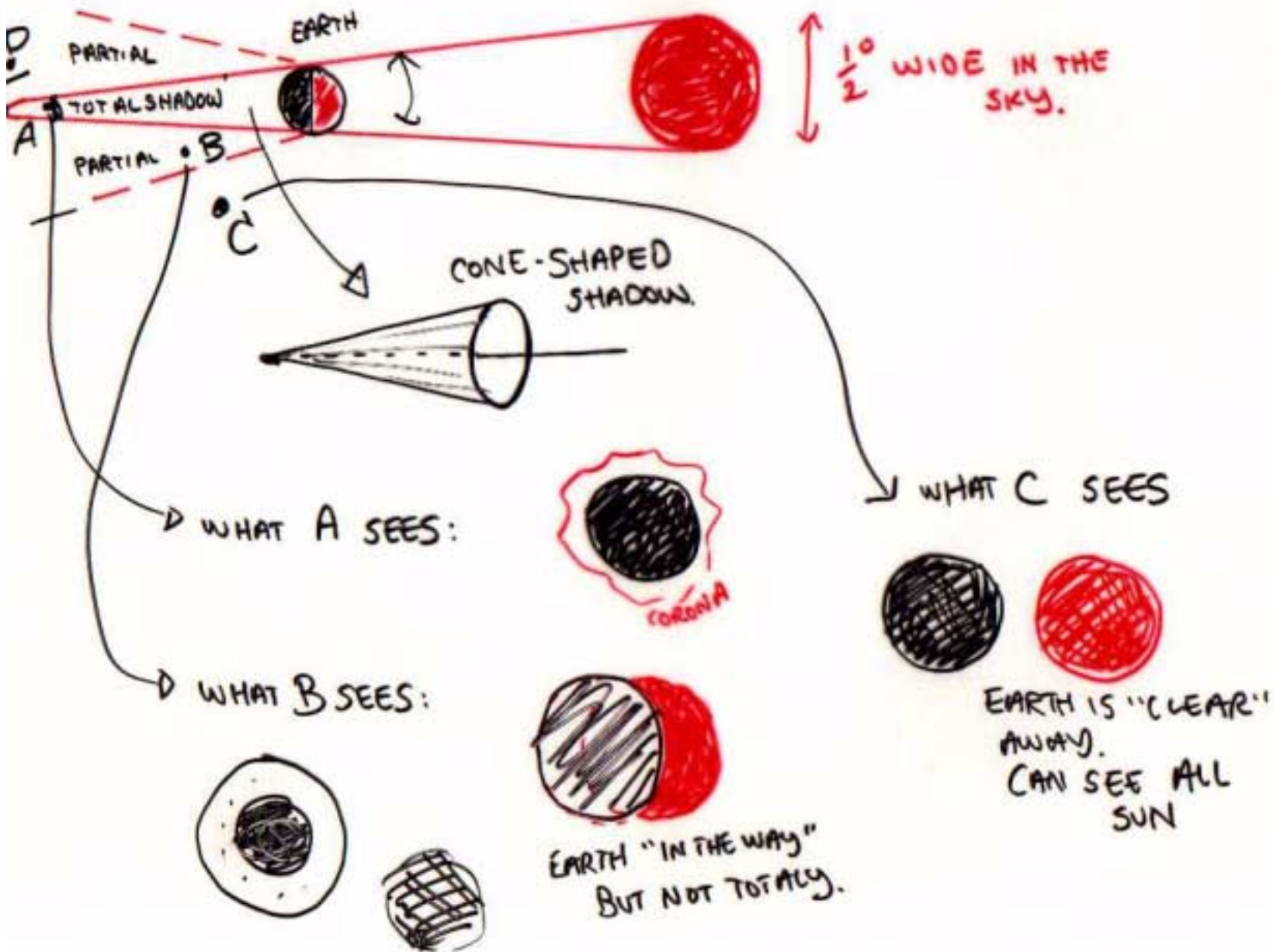
BUT EARTH IS ALWAYS IN SAME POINT... ZENITH OR "HIGH" NOON.

How LONG DOES IT TAKE ^{ON} MOON FOR
SUNRISE → SUNSET?

How LONG DOES IT TAKE FOR
EARTHRISE → EARTHSET?

SHADOWS + ECLIPSES

5-18



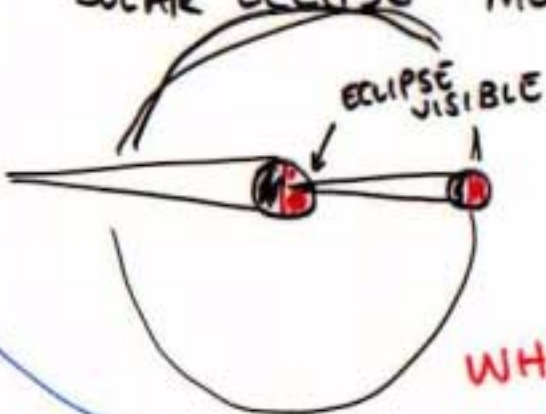
☐ LUNAR/SOLAR ECLIPSES

5-16

BOTH MOON + EARTH CAST SHADOWS

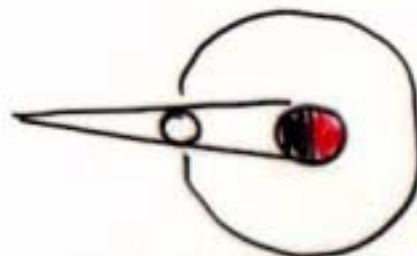


SOLAR ECLIPSE MOON COVERS THE SUN:



WHAT PHASE?

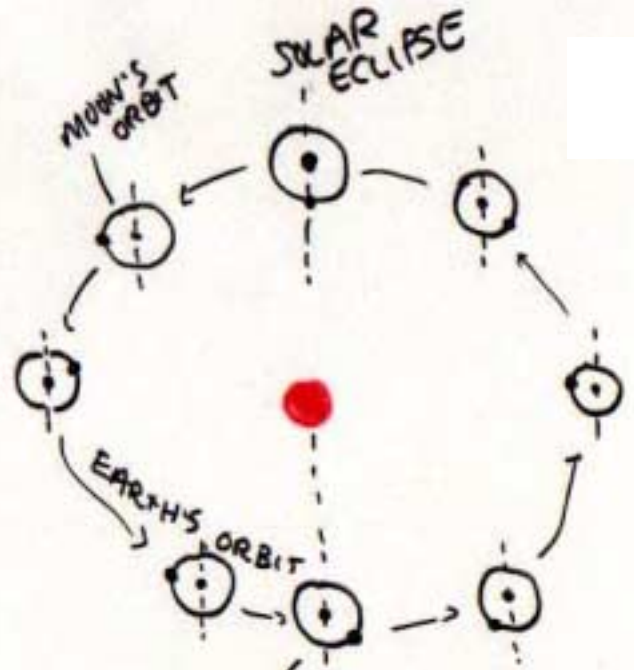
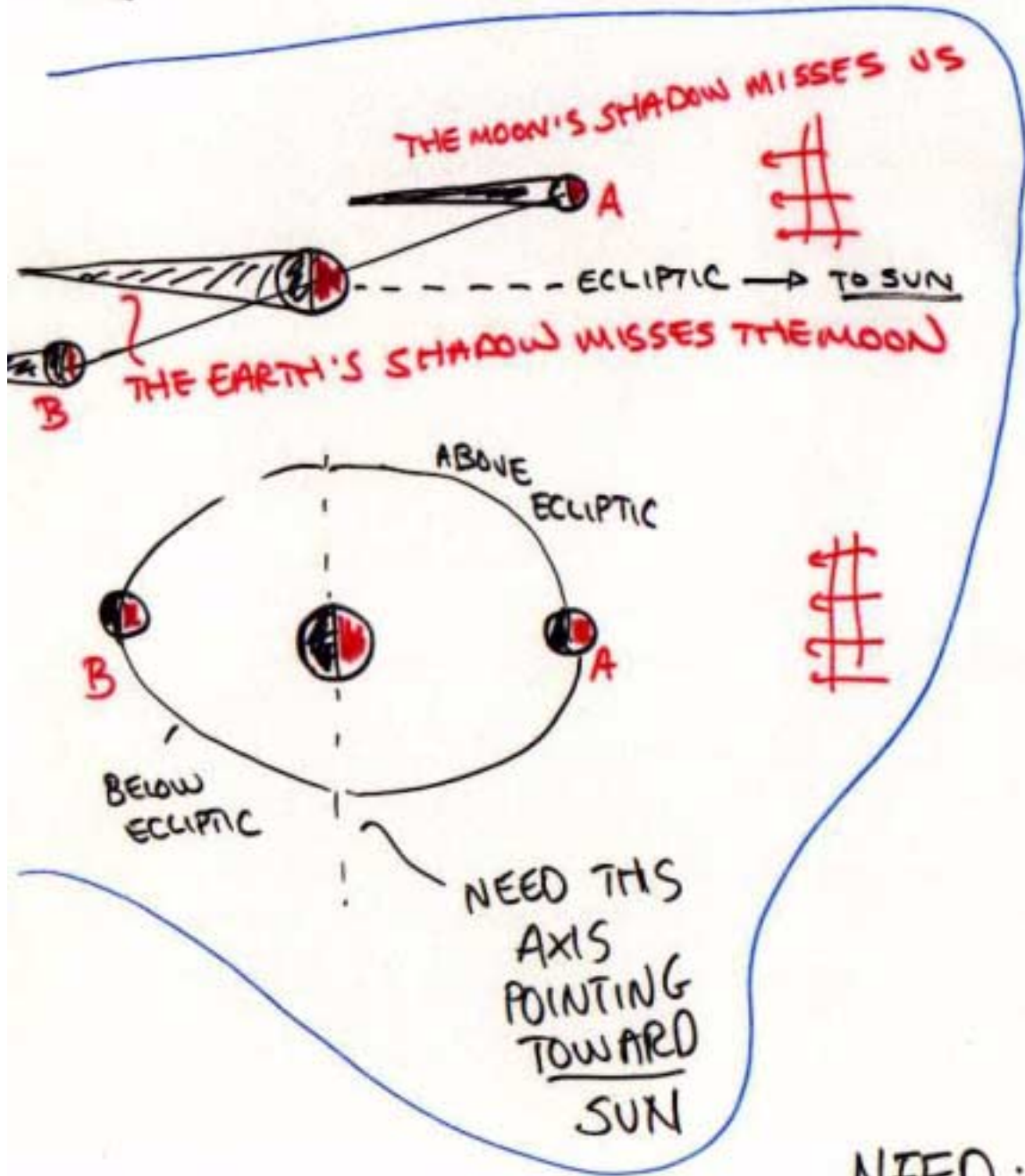
LUNAR ECLIPSE:
THE EARTH SHADES
THE MOON



WHAT PHASE?

□ WHY NOT EVERY MONTH (SOLAR + LUNAR ECLIPSES?) 5-16

-17



AN ECLIPSE IS POSSIBLE BUT MOON IS IN WRONG POSITION!

RARE!

NEED: NEW OR FULL MOON AT 2 TIMES OF THE YEAR

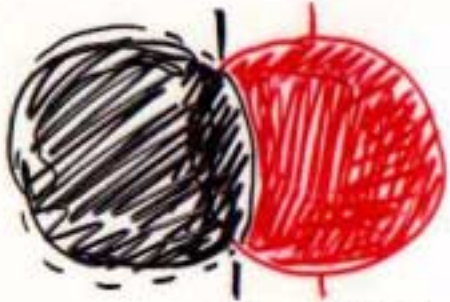
☐ SHAPES OF MOON PHASES + ECLIPSES



POLE-TO-POLE



- MOON



OVERLAPPING
CIRCLES



NOT POLE-TO-POLE.