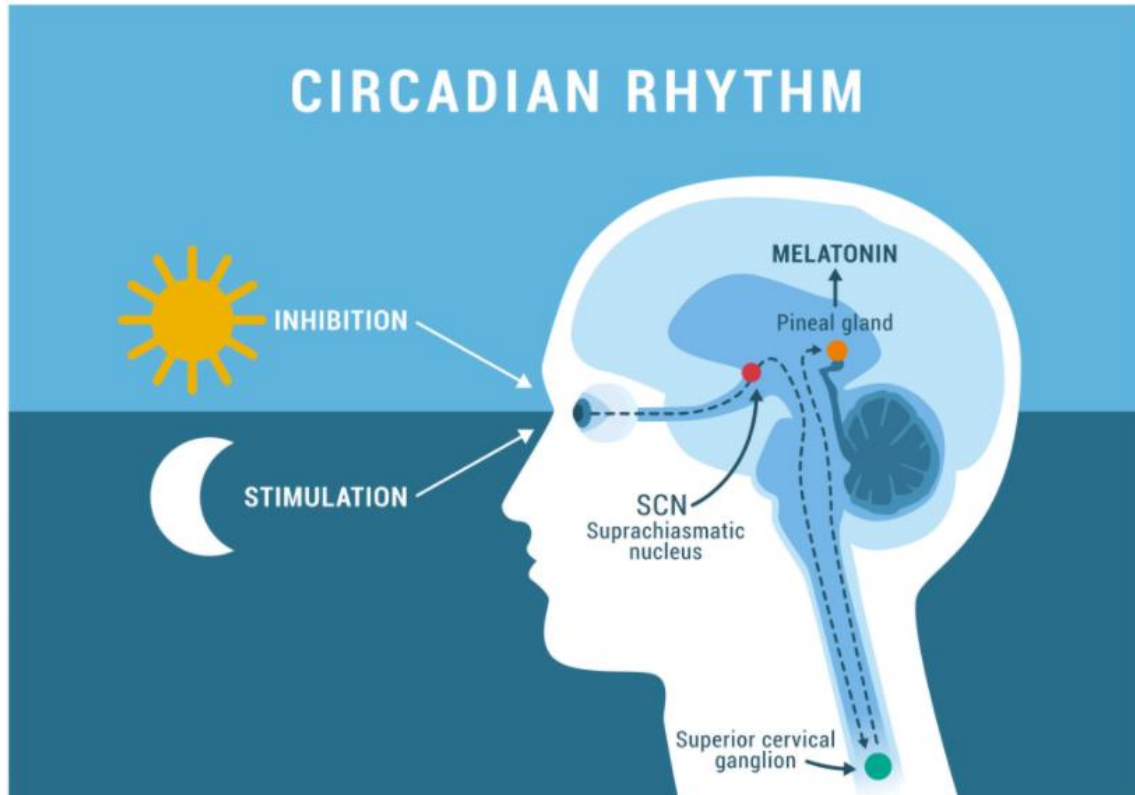


HANDOUTS 4 MENTAL HEALTH AND CELLULAR FUNCTION

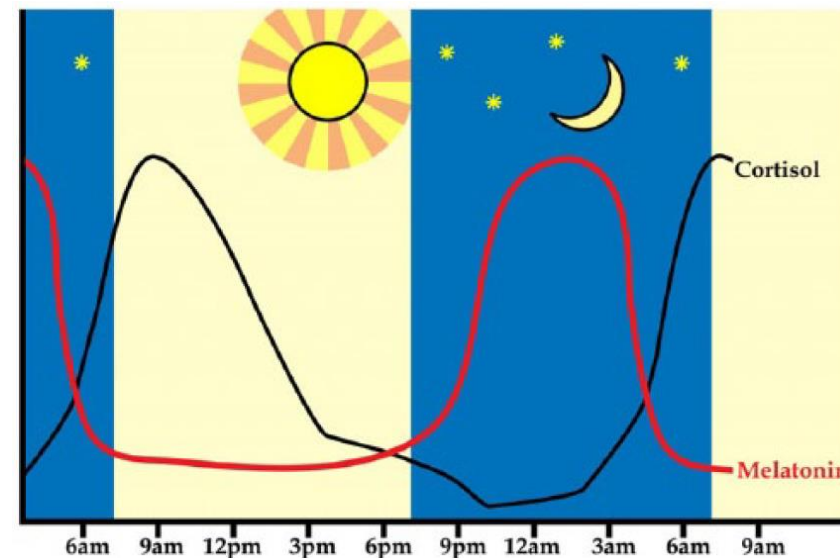
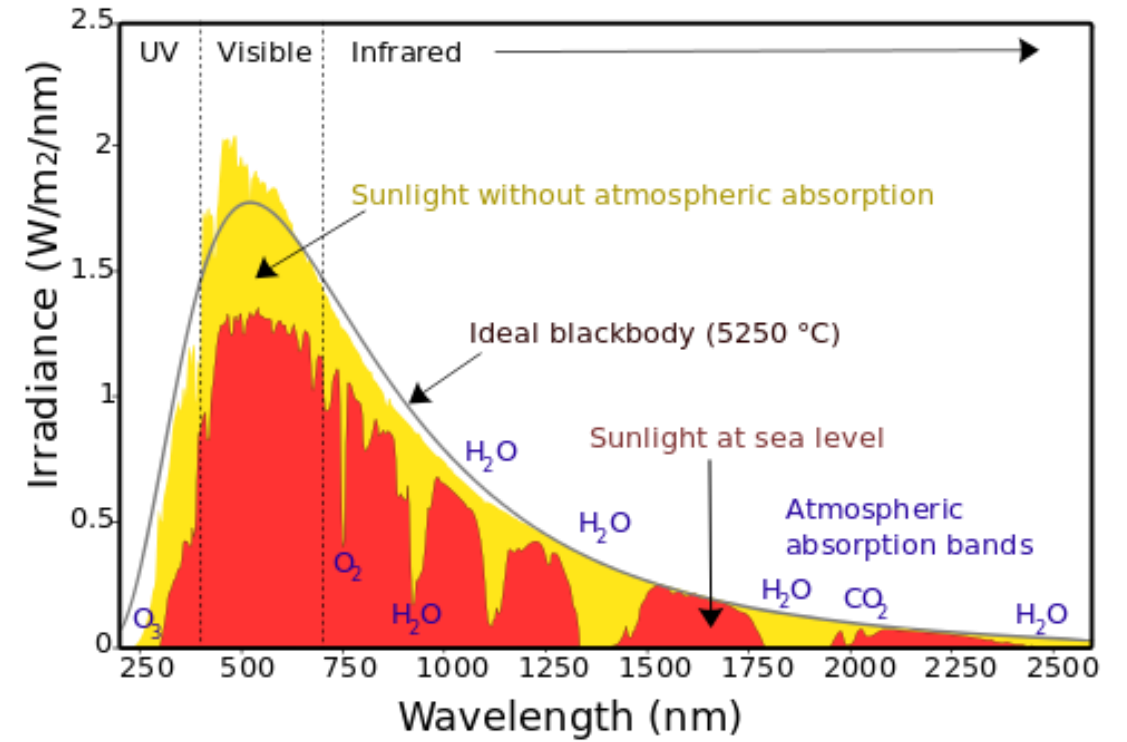
SUNLIGHT: MAJOR NUTRIENT AND ENERGY SOURCE



MELATONIN PROTECTS MITOCHONDRIAL DNA FROM ROS



Spectrum of Solar Radiation (Earth)



SUNLIGHT: MAJOR NUTRIENT AND ENERGY SOURCE



5 NATURAL ANTIOXIDANTS



MELATONIN

GLUTATHION

UBIQUINONE

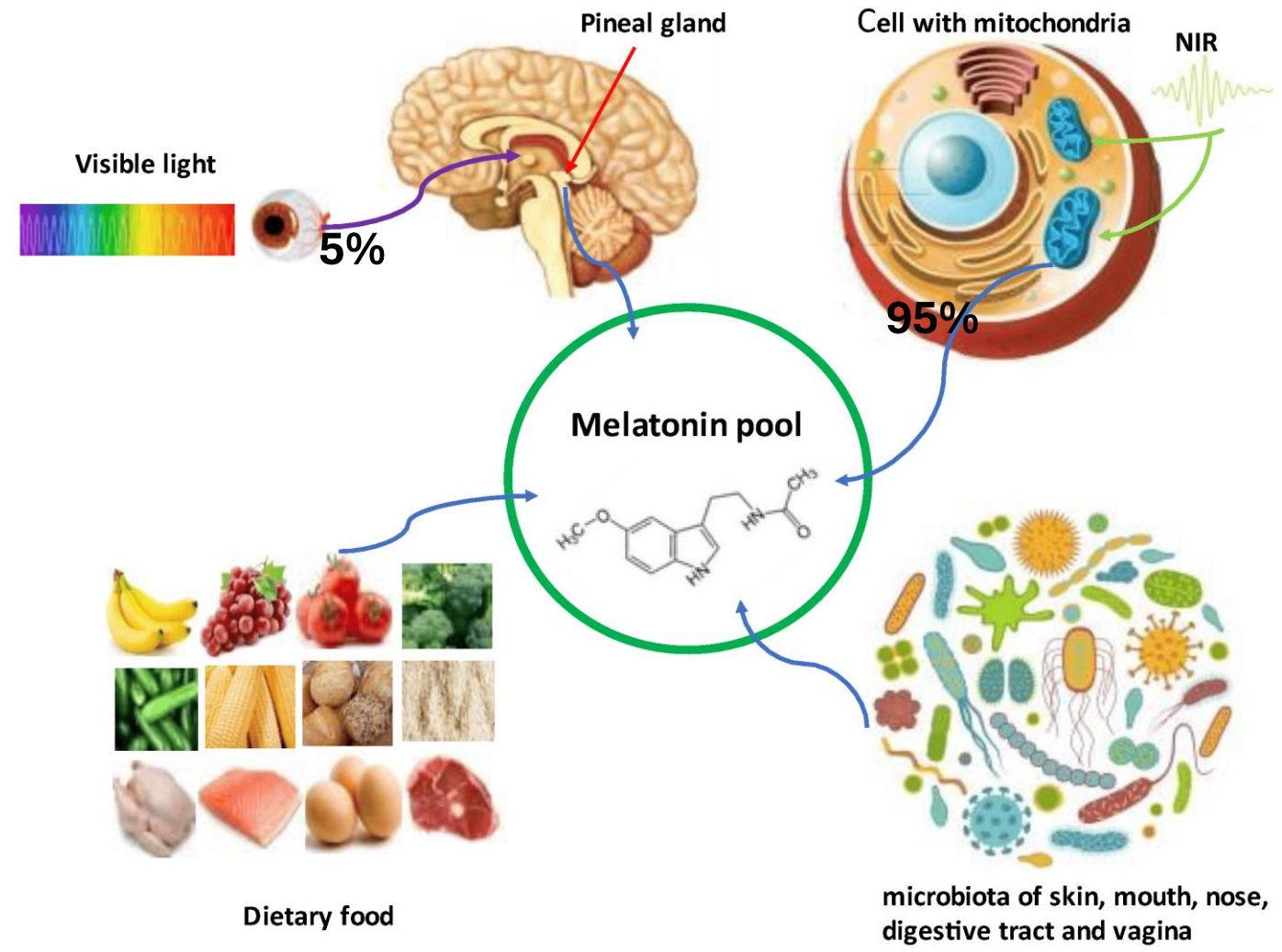
URIC ACID

3 CONSUMED ANTIOXIDANTS

BETA CAROTENE

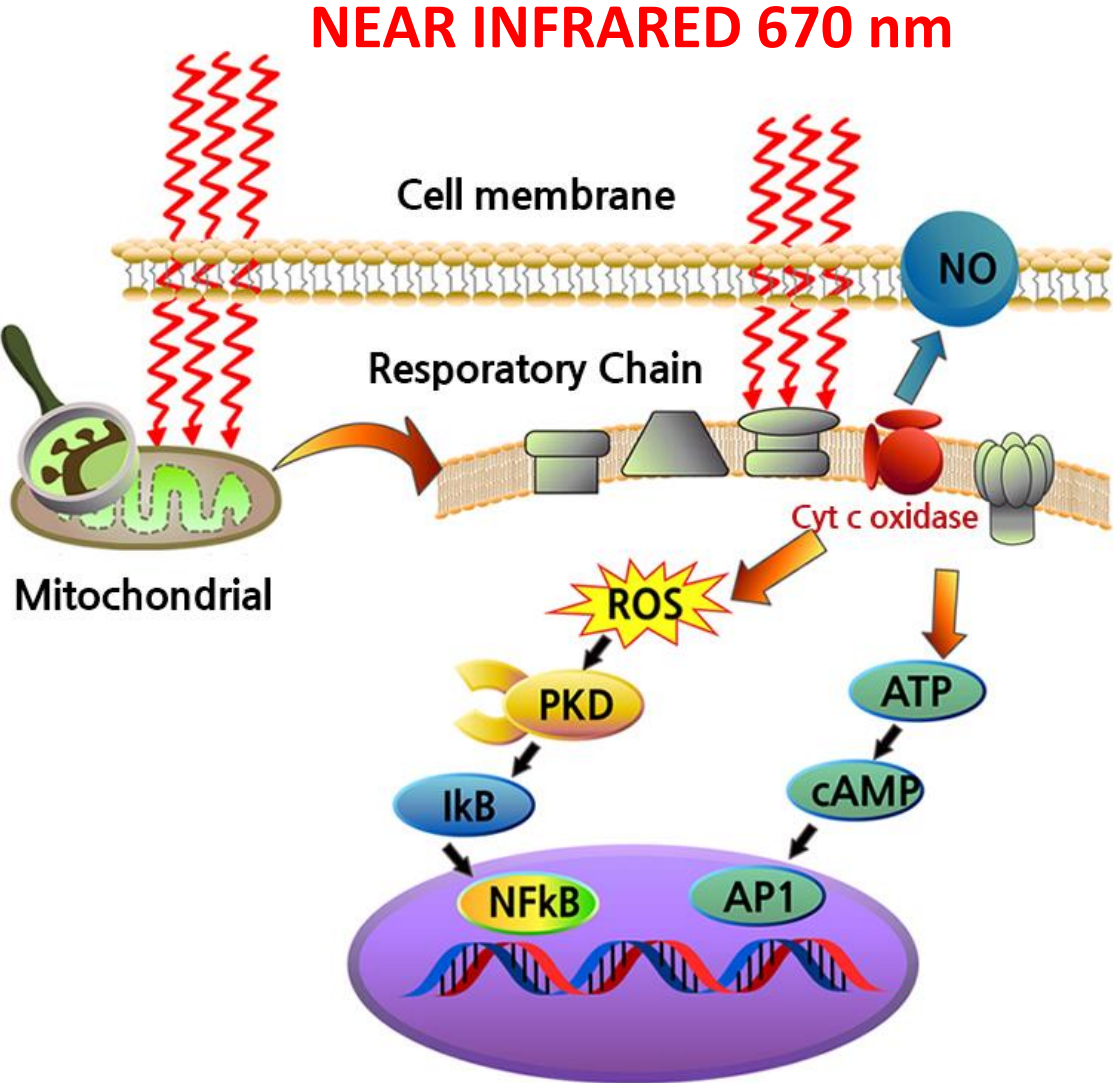
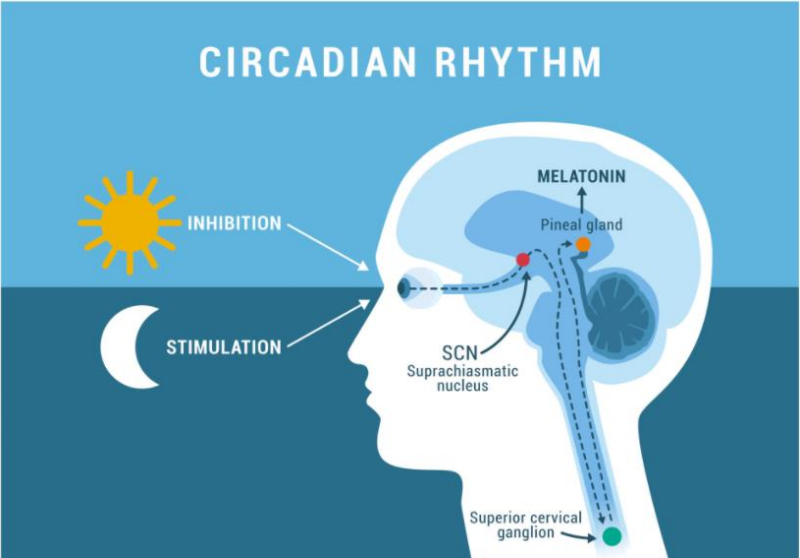
VITAMIN C

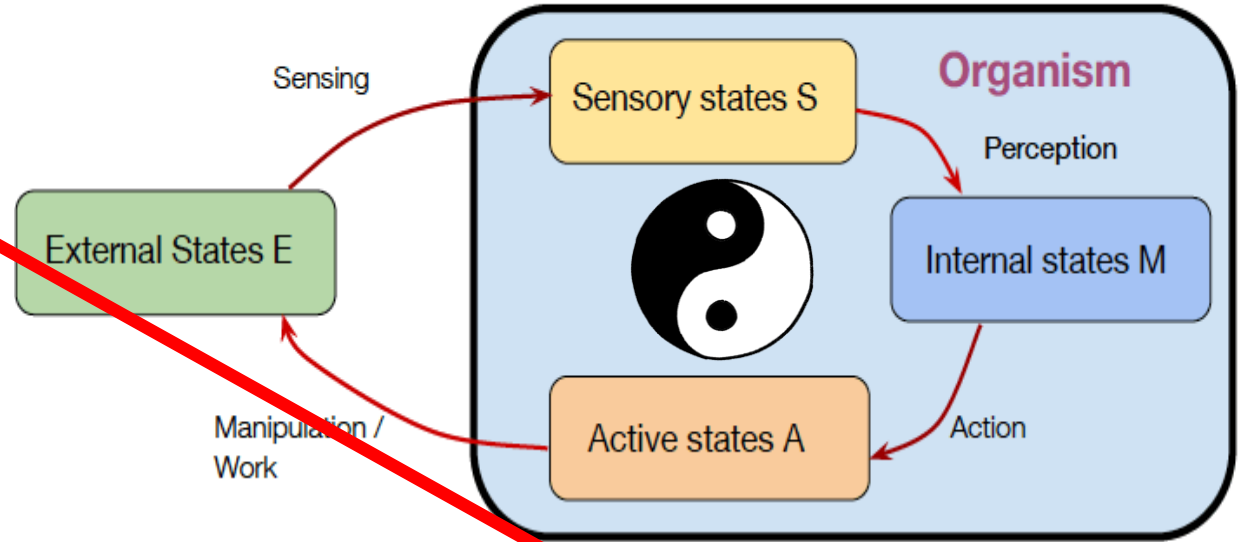
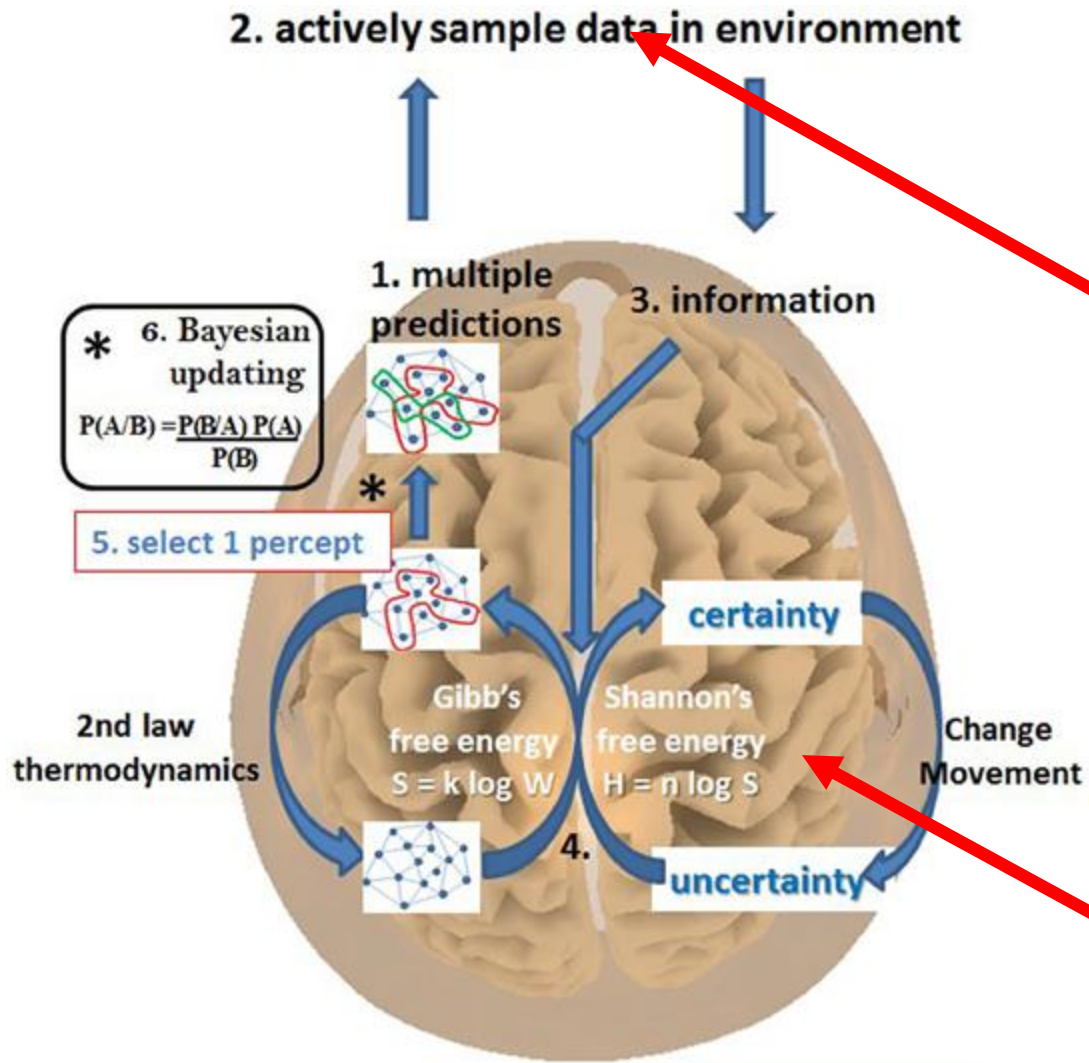
VITAMIN E



SUNLIGHT: MAJOR ENERGY SOURCE

DAYTIME SURVIVAL AND REPRODUCTION





$$\text{World} = E \times S \times M \times A$$

ALL SOLUTIONS COME FROM DATA COLLECTED FROM

A GENERATIVE MODEL OF THE SYSTEM UNDER CURIOSITY

**The hacking of the American mind by Robert Lustig MD, 2017.
32 min.**

<https://www.youtube.com/watch?v=EKkUtrL6B18>

The hacking of the American mind by Robert Lustig MD, 2017.

Pleasure

1. Shortlived
2. Viscereal
3. Taking
4. Achieved with Substances
5. Experienced alone
6. Extremes lead to addiction
7. Dopamine
(with tolerance,
receptor down regulation)

Happiness

- Longlived
- Ethereal
- Giving
- Cannot be achieved with Substances
- Experienced in social groups
- No addiction to happiness
- Serotonin (no tolerance)