

CORNERSTONE HEALTH



**EMPOWERING THE MIND
TO TRANSFORM THE BODY**

SECTION 1: FOUNDATIONS OF HEALTH

Principle#4

Sunshine



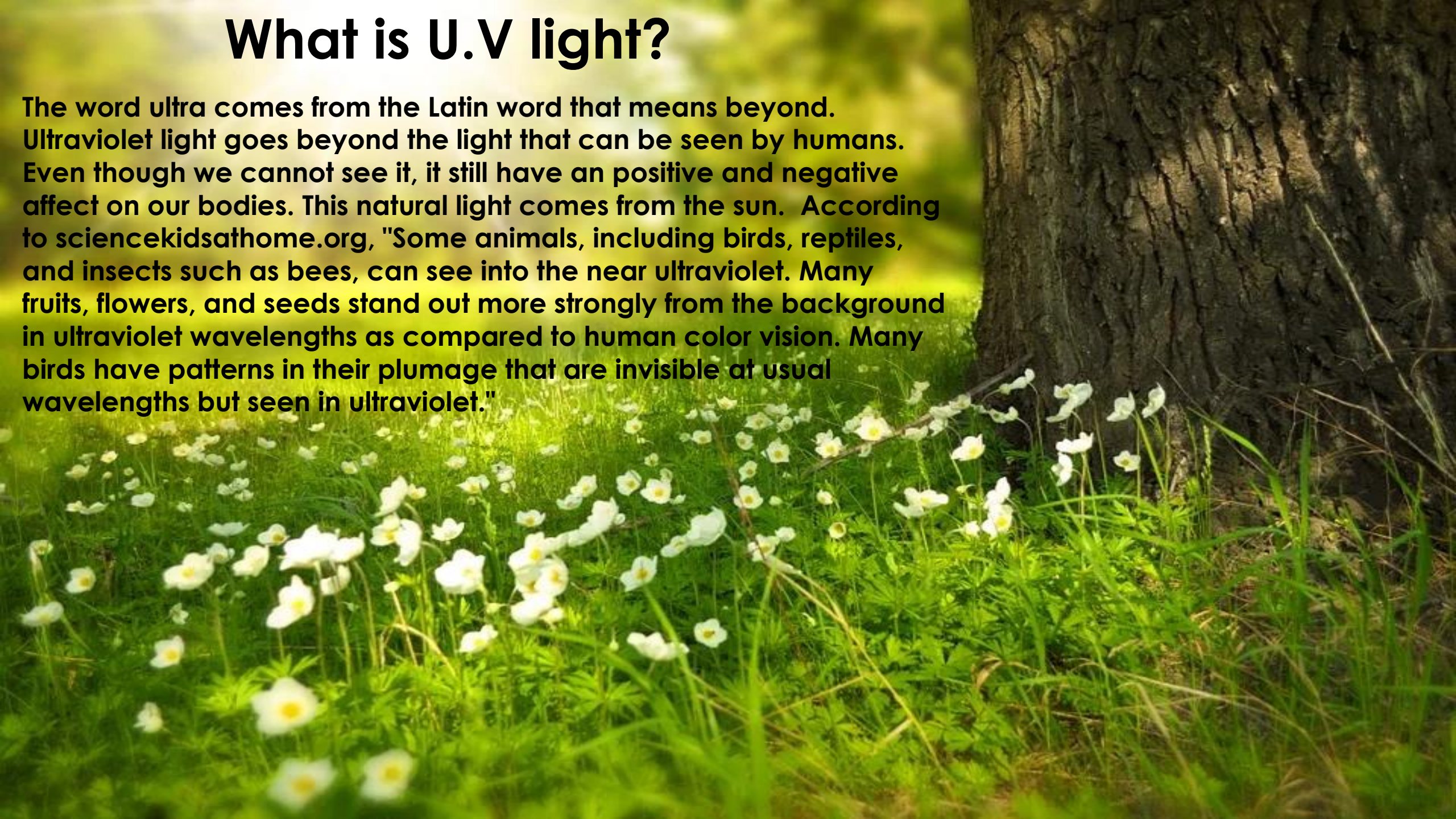
Discussion points



- **What is U.V light?**
- **How does our bodies use U.V rays?**
- **How much sunlight is needed daily and how do we obtain it?**

What is U.V light?

The word ultra comes from the Latin word that means beyond. Ultraviolet light goes beyond the light that can be seen by humans. Even though we cannot see it, it still have an positive and negative affect on our bodies. This natural light comes from the sun. According to sciencekidsathome.org, "Some animals, including birds, reptiles, and insects such as bees, can see into the near ultraviolet. Many fruits, flowers, and seeds stand out more strongly from the background in ultraviolet wavelengths as compared to human color vision. Many birds have patterns in their plumage that are invisible at usual wavelengths but seen in ultraviolet."





**How does our bodies
use U.V rays?**

Ultra B.

U.V.B- Is responsible for producing what is necessary for Vitamin D3.

Vitamin D2 is produced by plants.

Vitamin D3 is produced by the UV light that reacts with an enzyme called 7-dehydrocholesterol (calcidol) to create pre-vitamin D.

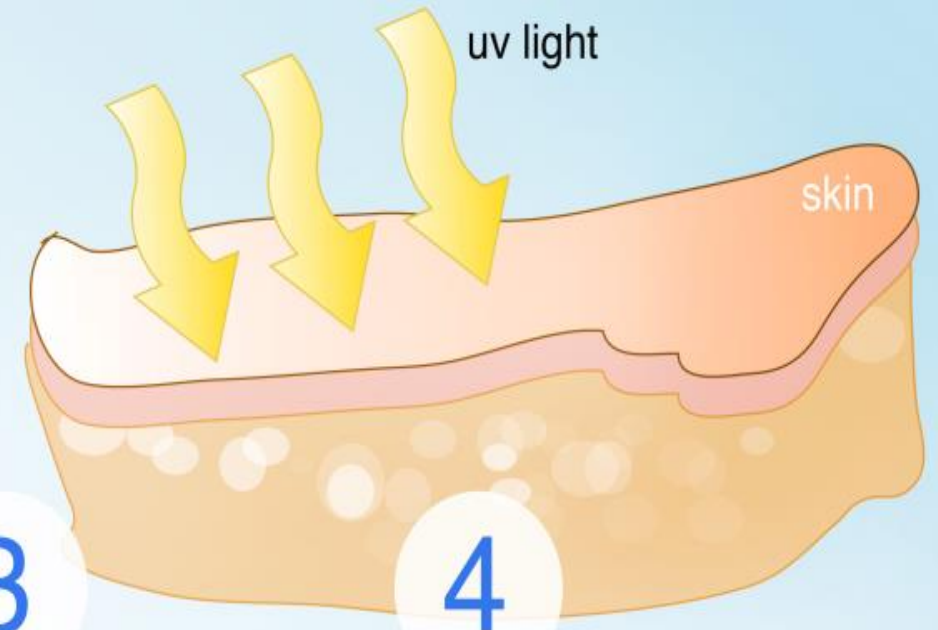
Pre-vitamin D rearranges its structure to form vitamin D3 and is stored in the liver.

An enzyme then converts vitamin D3 into a compound called calcitriol in the kidney's, lymph nodes and aviola.

Calcitriol is the active form of vitamin D that is responsible for the numerous health benefits.

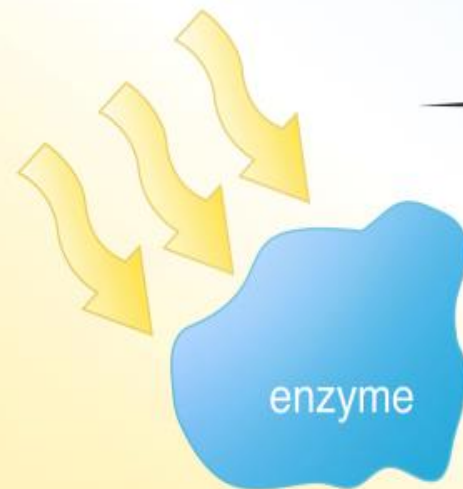
1

skin is exposed to uv light



2

uv light reacts with an enzyme called 7-dehydrocholesterol



3

this reaction creates pre-vitamin D



4

pre-vitamin D rearranges its structure to form vitamin D

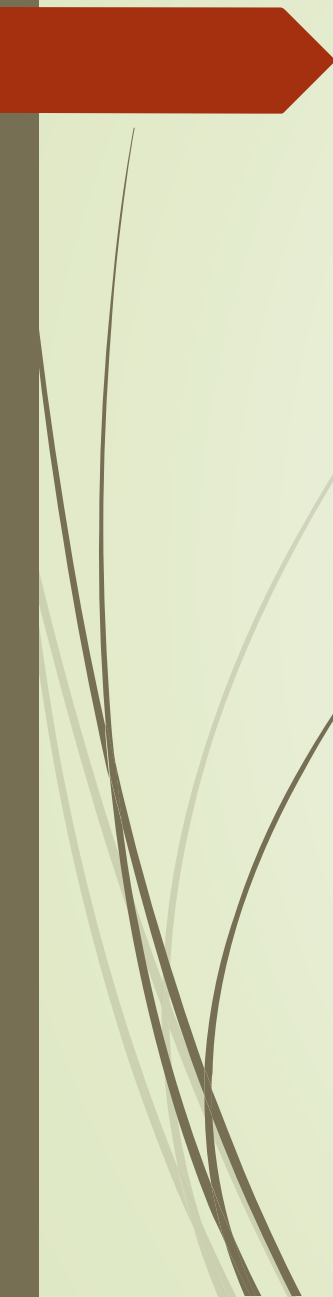


Vitamin D:

- Promotes calcium absorption in the gut
- Keeps the bone strong and prevent hypocalcemic tetany.
- Promotes bone growth and assist bone cells.
- Reduce inflammation
- Influences cell growth, neuromuscular and immune function
- Produces energy

*Many tissues have vitamin D receptors, and some convert 25(OH)D (calcidiol) to 1,25(OH)₂D (calcitriol).





FOOD	SERVING	VITAMIN D (IU)
Maitake mushrooms **	1 cup, diced	786
Portobello mushrooms **	1 cup, sliced	634
Soy milk, original, fortified with vitamin D	1 cup	120*
Almond milk, original, fortified with vitamin D	1 cup	100*
Chanterelle mushrooms, raw**	1 cup	114
Orange juice, fortified with vitamin D	1 cup	100*
Soy yogurt, fortified with vitamin D	150 grams	80*
Ready-to-eat cereal, fortified with vitamin D	¾ – 1 cup	40*



- **How much sunlight is needed daily and how do we obtain it?**



Sun Exposure

➤ **Sunlight Increases:**

1. Melatonin and serotonin
2. Balance of stress
3. Oxygen supply of blood
4. Melanin secretion
5. Vitamin D production

➤ **Sunlight Decreases:**

1. Free radicals
2. Fatigue and depression
3. Blood sugar
4. Bone loss
5. Disease

9am - 11am daily.

Full Spectrum artificial light

1. Melatonin and serotonin
2. Balance of stress
3. Vitamin D production
4. Fatigue and depression
5. Mood





Remember.....

- ▶ Vitamin D is produced in the skin after exposure to sunlight. "Vitamin D has plenty of benefits including increased immunity improved mood, stabilized blood sugar levels, lower risk of chronic diseases such as cancer, diabetes fibromyalgia and osteoporosis." Lauren Ameling DC,BCND.
- ▶ Sunlight exposure: 5 to 10 minutes a sunlight on bare skin two to three times per week can help stimulate vitamin D production as well. Supplementing during the winter is necessary. Also utilization of full spectrum lamps which provides similar benefits can assist on "Gray days".

Thank you





Sources



- http://www.sciencekidsathome.com/science_topics/sunlight_a.html
- <https://www.cdc.gov/nceh/features/uv-radiation-safety/index.html>
- https://www.medicinenet.com/ultraviolet_a/definition.htm
- <https://hopes.stanford.edu/vitamin-d3/>
- <https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>
- https://www.accessdata.fda.gov/scripts/interactivenutritionfactslabel/assets/InteractiveN_FL_Vitamins&MineralsChart_March2020.pdf
- <https://www.imaware.health/blog/the-best-sources-of-vitamin-d-for-vegans>
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- <https://www.cambridge.org/core/journals/psychological-medicine/article/abs/fullspectrum-fluorescent-lighting-a-review-of-its-effects-on-physiology-and-health/B1ED91A7D5EC61FFBC5A8EF7D910C29F>