

-----WARNING-----

!夏日の侵襲!

夏天熱辣辣，我地除了可以食西瓜消暑解渴之外，還可以出去瘋狂遊玩！但是，在燦爛過頭的陽光地之下，我們一定需要塗擦**防曬霜**！

防曬霜的奧妙！

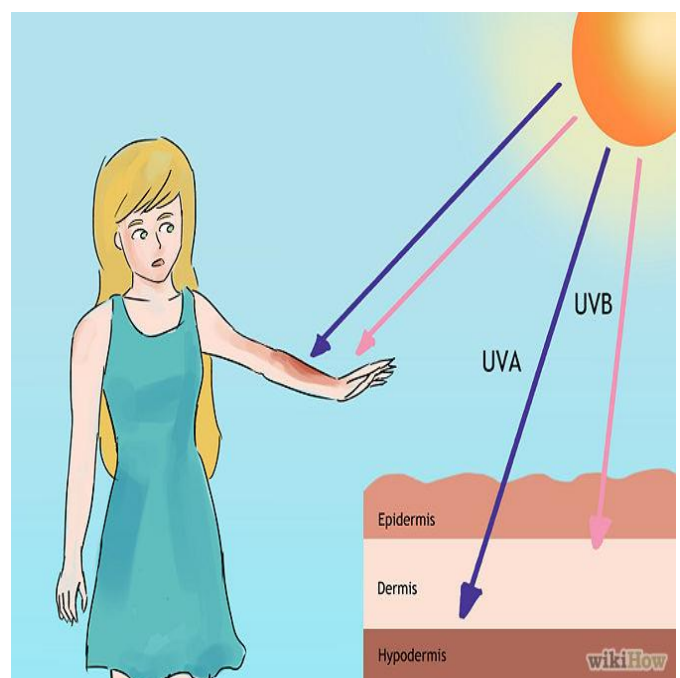
**防曬霜**是防止皮膚受紫外線曬傷的護膚品。防曬霜有不同的防禦指數 SPF（Sun Protection Factor），指在一段情況下可延長避免曬傷的時間。如用 SPF4 太陽油，則在每平方厘米的皮膚塗抹有 2 毫克的防曬乳的情況下(臉部大約共為一蚊硬幣大小的量)，可以延長 4 倍的曬傷時間，本來一小時便會曬傷的皮膚，可以受保護多至 4 小時;亦能夠阻隔 75%的 UVB。防曬黑係數 (protection factor for UVA)則為評估防曬劑對 UVA 的防曬能力指數！



防曬霜的組成`~`

防曬乳含有下列中一項以上的成分:

- 能吸收紫外線的有機化合物 (原理:化學性防曬)
- 能反射或分散紫外線的無機微粒 (如氧化鋅、二氧化鈦, 或兩者的混和) (物理性防曬)
- 如同有機化合物吸收紫外線的有機微粒, 其中含有多重的生色團分子, 能像無機微粒反射或分散一部分光線, 且相較於有機化合物有結構上的差異, 如 Tinosorb M. (化學性+物理性)
- 紫外線的減弱效力受到其顆粒大小極大的影響, 因此成



分通常微粒化至 200 奈米以下，以確保一定程度的吸收效果。此種防曬模式中 90%紫外光被吸收(化學性防曬)，其餘 10%則被反射(物理性防曬)。

除了要塗擦防曬霜，大家還要記得多喝水！

## Positive and negative effects of UV

UV PROTECTION CHART				
Low (0-2)	Medium (3-5)	High (6-7)	Very High (7-10)	Extremely High (11+)
Sunscreen	Sunscreen	Sunscreen	Sunscreen	Sunscreen
Sunglasses	Sunglasses	Sunglasses	Sunglasses	Sunglasses
	Hat	Hat	Hat	Hat
		Shade	Shade	Shade
				Staying indoors between 10am-4pm

The Earth's atmosphere blocks 98.7% of the Sun's UV radiation from penetrating through the atmosphere. The 2.3% that gets through has both positive and negative effects.

## Positive (beneficial) effects of UV

**Triggers vitamin D** – UV from the Sun is needed by our bodies to produce vitamin D. Vitamin D helps strengthen bones, muscles and the body's immune system. It may also lower the risk of getting some kinds of cancers such as colon cancer.

**Helps some skin conditions** – UV is used in the treatment of skin conditions such as psoriasis. This is a condition where the skin sheds its cells too quickly and develops itchy, scaly patches. Exposure to UV slows the growth of the skin cells and relieves the symptoms.

**Helps moods** – Research suggests that sunlight stimulates the pineal gland in the brain to produce certain chemicals called 'tryptamines'. These chemicals improve our mood.

**Helps some animals' vision** – Some animals (including birds, bees and reptiles) are able to see into the near UV light to locate many ripe fruits, flowers and seeds that stand out more strongly from the background. The fruits, flowers and seeds often appear quite different from how humans see them. For example, when seen in UV light, some flowers have different line markings, which may help direct bees and birds to the nectar.

**Aids some insects' navigation** – Many insects use UV emissions from celestial objects as references for navigating in flight. This is why a light sometimes attracts flying insects by disrupting their navigation process.

## Negative (harmful) effects of UV

**Causes skin cancer** – UV is an environmental human carcinogen. It's the most prominent and universal cancer-causing agent in our environment. There is very strong evidence that each of the three main types of skin cancer (basal cell carcinoma, squamous cell carcinoma and melanoma) is caused by sun exposure. Research shows that as many as 90 percent of skin cancers are due to UV radiation.

**Causes sunburn** - UV burns the skin. Sunburn is a burn that occurs when skin cells are damaged. This damage to the skin is caused by the absorption of energy from UV rays. Extra blood flows to the damaged skin in an attempt to repair it, which is why your skin turns red when you are sunburnt.

**Damages immune system** – Over-exposure to UV radiation has a harmful suppressing effect on the immune system. Scientists believe that sunburn can change the distribution and function of disease-fighting white blood cells in humans for up to 24 hours after exposure to the sun. Repeated over-exposure to UV radiation can cause even more damage to the body's immune system. The immune system defends the body against bacteria, microbes, viruses, toxins and parasites (disease and infection). You can see how effective the immune system is by looking at how quickly something decays when it dies and the immune system stops working.

**Damages eyes** – Prolonged exposure to UV or high intensities of UV (for example, in sunbeds) damages the tissues of eyes and can cause a 'burning' of the eye surface, called 'snow blindness' or photokeratitis. The effects usually disappear within a couple of days, but may lead to further complications later in life. In 1998, the Journal of the American Medical Association reported that even low amounts of sunlight can increase the risk of developing eye damage such as cataracts (which, left untreated, will cause blindness), pterygium and pinguecula. UV damage to the eyes is cumulative, so it is never too late to start protecting the eyes.

**Ages skin** – UV speeds up the aging of skin, since the UV destroys collagen and connective tissue beneath the top layer of the skin. This causes wrinkles, brown 'liver' spots and loss of skin elasticity. The difference between skin tone, wrinkles, or pigmentation on the underside of a person's arm and the top side of the same arm illustrate the effects of sun exposure on skin. Usually, the top side of the arm has had more exposure to the sun and shows greater sun damage. Because photo-aging of the skin is cumulative, it is never too late for a person to start a sun protection programme. Otherwise, though a tan may look good now, you could be paying for it with wrinkly leathery skin or skin cancer later.

**Weakens plastics** – Many polymers used in consumer items (including plastics, nylon and polystyrene) are broken down or lose strength due to exposure to UV light.

## !! Relaxing Time !!

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	2		6		3		5	
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1	6	2	8	7	9	6	3	4	5
7	4	5	1	3	6	9	2	8	7
9	8	3	5	2	4	7	1	6	8
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9	4	8	3	1	5	7	6	2	9

## COMIC CORNER!!

### UNDERWHELMED

6/8/09



\*Sunburn\*

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