



# Investigation into Sunscreens

Sunscreens are rated according to their ability to filter ultraviolet B (UVB) light. This is the SPF (sun protection factor) - the higher the SPF, the better the UVB barrier.

Baby cream, cooking oil, moisturizer, etc may also work. Can you investigate if they do, and how well?



## Description of Investigation

Put the same amount of tonic water into each of several beakers and cover each with tight cling film. Spread the same small amount of cream or oil onto each cling film cover. Shine the UV lamp from above each beaker in a dark place. Give each beaker a score out of 10 depending on how brightly the tonic water fluoresces.



## Variables

Change the sunscreen/oil. Keep these variables the same -  
the quantity of tonic water  
the size of beaker  
the UVB light  
the thickness of cling-film  
the thickness of sunscreen or oil



## Equipment

Glass beakers. Cling Film. UV lamp. Tonic Water. Selection of creams, oils, etc. Some way of doing the investigation in the dark (under a light-proof cloth, in a large box, in a dark room).



## Results

Sunscreen / oil	Score out of 10



## Conclusions

Write about which sunscreens or oils are effective in blocking UVB. Do the SPF figures fit your results?



## What I want to find out:

Which sunscreen is best at stopping UVB light getting to the Skin?

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## Useful knowledge

Tonic Water fluoresces in UV light from a UVB lamp - the more UVB light, the brighter the fluorescence.

How I'm going to make it a fair test?

Things to consider: Thickness of cream. Lamp power. Volume of tonic water.

I thought my investigation was good because...

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If I were to do the investigation again, I would change because...

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