

## Citronella Candle

On SCOPE's Things that... bite and sting episode, Julia made a citronella candle to keep away the mozzies. Here's how you can do it at home:



### Warning:

This activity involves using a stove and working with hot wax, so young scientists will need an adult to help.

### What you need:

Candle holder (an old flower pot, a small metal bucket etc)  
 Scissors  
 Candle wick (from craft stores)  
 Candle wax or scraps of old candles  
 Large tin can  
 Citronella oil (from the supermarket)  
 Large pot  
 Tongs  
 Pencil

### What to do:

1. Cut the wick so it's about 3cm longer than your candle holder.
2. Put the wick aside for later.
3. Place the scraps of candle wax into the large tin can.
4. Add citronella oil to the tin can (about 30ml/500g wax).
5. Put the tin can aside for later.
6. Half fill the large pot with water.
7. Turn on the stove (ask an adult to help).
8. Place the pot on the stove and wait for the water to boil.
9. Place the tin can into the pot of boiling water and wait for the wax to melt.
10. Using tongs, dip the wick into the tin can to coat the wick in wax. This will stiffen the wick, make it easier to light and help the candle to last longer.
11. Set the wick in place by wrapping it around something resting on top of the candle holder, like a pencil, and letting the wick dangle in the centre of the candle holder.
12. Pour the melted wax into the candle holder (be very careful and ask an adult to help).
13. Tap the sides to get rid of any air bubbles.
14. Leave the candle to set overnight.
15. Cut the top of the wick so about 2cm is poking up about the wax.  
 The candle is now ready to light!



**What's happening?**

Citronella oil comes from the leaves and stems of citronella grass. While some researchers have found it to be effective at calming dogs, it is generally used as a natural insect repellent.

When you light a candle, the wick begins to burn and the heat melts the wax. The liquid wax is then absorbed by the wick and pulled upwards. The heat from the flame then turns the wax into vapour which combines with oxygen to form a flame!

For the citronella candle, the oil is dispersed by the flame which repels the insects and keeps you insect bite free! It doesn't smell too bad either!

