



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

# SMART COOKING AND HOME SAFETY GUIDE



Making progress possible. Together.

This Smart Cooking and Home Safety Guide was developed by the City of Cape Town as part of the City's Smart Living Campaign.

If the content of this guide is being used for training programmes or any other purpose, the City must be acknowledged as the original developer of this guide.

Every effort has been made to ensure the accuracy and quality of information in this document at the time of development. The City cannot be held responsible and will not be liable for any errors or omissions contained herein.

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**DISCLAIMER:**

In no event will the City be liable for any loss or damage that may arise from the use of this guide.

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# INTRODUCTION

Food and cooking are an important part of our everyday lives. This workbook introduces new ideas about cooking methods, ways to cook smart and how to consider the environment with the choices we make.

## VISIT THESE SITES FOR MORE HELPFUL AND INTERESTING INFORMATION





# ABOUT SMART EATING

The concept of smart eating encourages us to understand the links between food, the environment and climate change, and to help us make informed and climate-friendly decisions about our food consumption.

## IMPACT ON THE ENVIRONMENT

Many of us are not aware of the negative environmental impacts of food production. For example, the large amounts of chemical fertilisers used in conventional agriculture cause “dead zones” in oceans and lakes, with low oxygen making the water unsuitable for the survival of fish, plants and other organisms.

The production and consumption of food also contributes to climate change, because the journey from the farms and food production factories to our plates uses a lot of energy, which often comes from fossil fuels. This generates greenhouse gases, contributing to global warming and climate change, which means more droughts, floods and extreme weather events.

## CHOOSING HEALTHY FOOD

Living sustainably means striving for a small carbon footprint and making choices that do not harm the environment. It is also about investing in our health and our future. Eating healthy food is usually more environmentally friendly, especially if it is grown locally, is in season or is organic and grown without chemicals. Environmentally-friendly choices are usually also healthy choices. The food you eat impacts on your health and energy levels, as well as how you look and feel.

The good news is that we often have control over our food choices, so we can all make a difference. Taking care of the planet is also taking care of ourselves.

## FOOD FOR THOUGHT

- Do you wonder about the journey your food had to take to get to your plate?
- Do you think about how your cooking methods affect the environment?
- What do you think we can do to help the environment when it comes to buying and cooking our food?



## HOW FAR HAS YOUR FOOD TRAVELLED?

The distance between where food has been grown (the field) to where it is eaten (the plate) is referred to as food miles. The shorter the distance food travels by truck, train or plane, the less fuel is used. Food grown in your local area or region uses less energy than food imported from other countries. Some food has to be frozen or cooled when transported, so the further it travels the more energy is used for freezing or cooling.

**It stands to reason then that buying food that is grown and made locally is better for the environment than imported goods.**



## WHAT IS CLEAN ENERGY?

Clean energy is heat and electricity produced from renewable sources, such as solar heaters or wind power, which generates little or no pollution or emissions. In South Africa, most of our electricity is generated from non-renewable sources, mostly at coal-fired power stations which release harmful particles, including carbon dioxide, into our air and waterways. This has a negative effect on the environment and on our health.

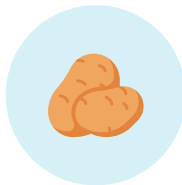
**DID YOU KNOW?** The food you order in or cook at home has an impact on the environment? A vegetable-based diet requires only 6% of the water required for a meat-based diet?



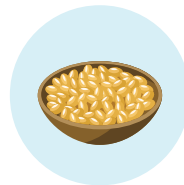
basil



mielie



potatoes



soy beans

## SMART CHOICES

How can we change the way we shop, cook and eat to make things better for our health and the environment? Here are a few ideas:

- Buy local, fresh, seasonal ingredients
- Grow your own vegetables
- Cook with renewable energy sources
- Reduce the amount of time you use electricity when cooking



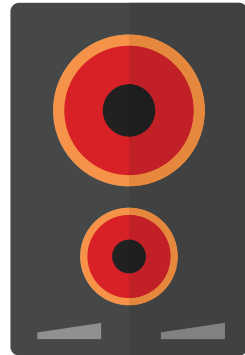
# ALTERNATIVE COOKING METHODS

People use different resources and technology to cook, from open fires to stoves and ovens powered by electricity, paraffin or gas. These traditional methods produce heat, which makes the pot or pan hot and cooks the food. But there are alternatives.

## USING AN INDUCTION STOVE

Induction is a new technology for cooking food. This method doesn't involve heating up a stove and transferring heat to the pot or pan. Instead, induction uses a very powerful, high-frequency electromagnet which makes the pot or pan the original generator of the cooking heat.

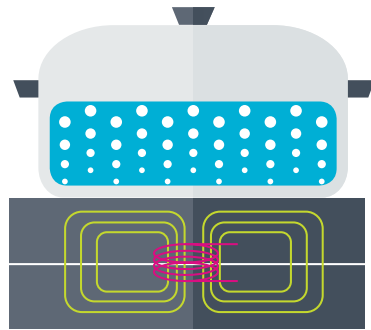
The main point of difference is that with an induction stove you need pots and pans made out of metals that can sustain a magnetic field. These are made of iron or stainless steel. Materials such as aluminium, copper and Pyrex will not work. Check your cookware with a magnet to see if it's suitable for induction cooking and take a magnet with you when buying new pots. The labels will also tell you if they are suitable for induction stoves.



**TIP:** Visit [www.snappychef.co.za](http://www.snappychef.co.za) for a cheaper, faster, safer way of cooking.

## HOW INDUCTION COOKING WORKS

1. The electronics power a coil (pink) that produces a high-frequency electromagnetic field (green).
2. The field penetrates the metal of the ferrous (magnetic-material) cooking pot and sets up a circulating electric current, which generates heat.
3. The heat generated in the cooking pot is transferred to the food inside.
4. Nothing outside the pot is affected – as soon as the pot is removed heat generation stops.



Advantages	Disadvantages
You can adjust the heat instantly	You need iron or stainless steel pots and pans; other kinds won't work
It's energy efficient, with no wasted heat	The glass ceramic stove top can be damaged
It's safer - the stove top stays cool when cooking, except under the pot or pan, which reduces the risk of burns	The internal cooling fan makes some noise
It does not release any by-products	If there's no electricity, you won't be able to cook your food
A good investment	It is expensive

## USING A SMART COOKER

A smart cooker uses heat retention to insulate a pot that has been brought to the boil on a stove. Heat retention is when heat obtained from an energy source is locked in. This reduces cooking time using the stove by over 70%. The method has many health benefits due to the slow cooking, and saves energy so it's good for the environment and your budget.

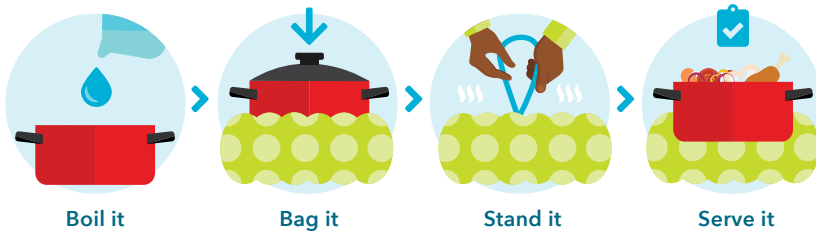
There are many kinds of smart cookers available. A smart cooker can be as simple as a blanket wrapped around a pot that has just been taken off a stove, or can be one made of fabric stuffed with insulating polystyrene beads or repurposed foam.

## HOW HEAT RETENTION COOKING WORKS

1. Put food in a pot on the stove and bring to the boil
2. Simmer for the time recommended for that food
3. Remove the pot from the stove and place it into the smart cooker
4. The food continues to cook below boiling point for several hours (do not open!)
5. Meal stays hot for up to 12 hours

## USING A WONDERBAG

These well-known smart cookers are made of fabric and foam. They have a one-year warranty and many have been used over 3 000 times and still work beautifully. Make sure the foam is properly fluffed to retain heat.



## ESTIMATED COOKING TIMES

	Time on stove	Time in smart cooker
Meat	20 minutes	3 hours
Chicken on the bone	15 minutes	2-3 hours
Vegetables	5 minutes	1 hour
Rice (white or brown)	2 minutes	1 hour
Beans or samp	20 minutes	3-4 hours

# 10 REASONS TO USE A SMART COOKER

1. **Better quality meals:** Food cooks slowly which helps keep the nutrients in. Vegetables stay firm and tasty.
2. **Big savings:** Save up to 66% of your energy costs and have up to 5% more food due to less evaporation, burning and sticking. The United Nations estimates that up to 20% of all food cooked using a fire is burnt, which is a lot of waste.
3. **Lower carbon emissions:** Using a smart cooker two to three times a week can reduce your carbon emissions by 500 kg a year – that’s what a typical car emits in four months.
4. **More free time for you:** Because your food can’t burn inside a smart cooker, you don’t have to spend so much time watching it. The food just keeps on cooking and is ready and waiting when you and your family want to eat.
5. **Easier cleaning:** Pots are easier to clean, as the food can’t stick or burn once inside the smart cooker.
6. **A pleasant home:** Your smart cooker is sealed, so there is no smell or noise from cooking.
7. **Hot and cold storage:** A smart cooker retains heat and cold, so you can keep food cool for up to 12 hours. Keep one in the boot of your car to store frozen groceries.
8. **Safer cooking:** There is less risk of fire and burns from a stove or fire during cooking.
9. **Better health:** The air quality in your home is improved as less smoke is produced in cooking, which means less respiratory illness.
10. **Lights off, cooking on:** If the power goes off, you can still enjoy delicious, nutritious, home-cooked meals.

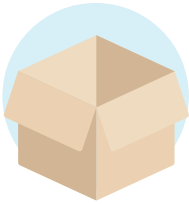
# MAKE YOUR OWN SMART COOKER

There are many ways to make your own smart cooker, especially if you find yourself in an emergency situation.

Here are some ideas:

- Sew one out of material and fill with polystyrene bits made from shredded packaging
- Wrap a blanket or duvet snugly around the pot
- Use a cardboard box, packed with newspaper and egg trays broken into pieces for insulation
- Bury the pot in a hole in the ground in your backyard or on a camping trip

Share these ideas about smart cooking using recycled materials:



Find a box



Cut old paper into strips and fill the box halfway



Place the pot on top of the paper



Cover with a pillowcase filled with paper strips

**SATEFY WARNING:** An in-use wonderbag/smart cooker may be cold outside but very hot inside. Keep away from pets and children.

# CHOOSING THE RIGHT COOKWARE

It's important to use the right kind of cookware when using induction stoves and smart cookers. As explained before, only iron and stainless steel pots and pans will work with induction stoves. Check the packaging or use a magnet to test.

Some pots work better than others in smart cookers. Here are some tips:

## STAINLESS STEEL

Stainless steel pots with tight fitting lids work well. Pots should have short handles and a heavy base.



## CAST IRON

Cast iron cookware coated with enamel is well suited. Heat retention is good and lids fit tightly. Cast iron pots (potjies) used on fires are not so good, as they may burn the smart cooker.



## CLAY

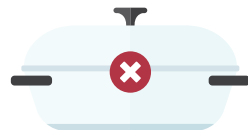
Clay pots are ideal for slow cooking stews and soups, with excellent heat retention.



## GLASS

Glass cookware or pots with glass lids are not recommended as glass doesn't retain heat well and food cools quickly. It may stay at a lukewarm temperature for too long leading to bacterial growth.

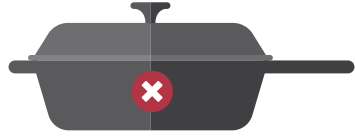
Glass cookware can be used to keep food warm for 1-2 hours until serving or when travelling.



### ALUMINIUM

Aluminium and non-stick cookware are good energy conductors but lose heat very fast and are therefore not ideal.

You could cook the food for longer or use a smart cooker as a warmer. It is advisable to reduce the bag time to ensure food safety.

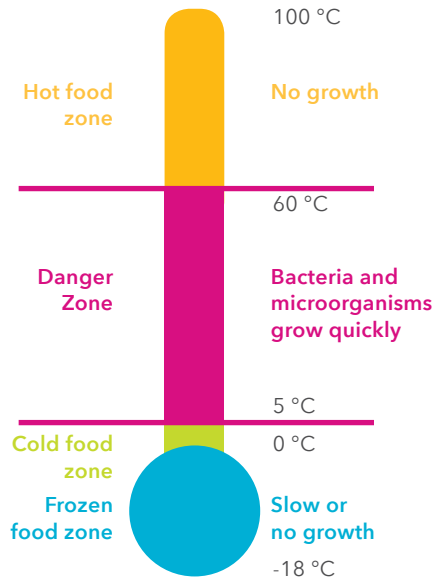


### STAINLESS STEEL FLAT-LIDDED POTS

Not recommended for use unless the prescribed time on the stove is increased and the lid is pushed down in the smart cooker by placing a heavy object on top of it to prevent heat from escaping.



**TIP:** Keep hot foods hot and cold foods cold. Visit [www.foodsafety.asn.au](http://www.foodsafety.asn.au) for more information.





# SMART COOKER FOOD SAFETY

Using a smart cooker is perfectly safe if you use it correctly. Most smart cooker recipes maintain a temperature above 65°C for at least 4-5 hours. To prevent foodborne illnesses, potentially hazardous food should not be stored at temperatures between 5-60°C, which food safety agencies, such as the United States' Food Safety and Inspection Service, define the danger zone.

## DO

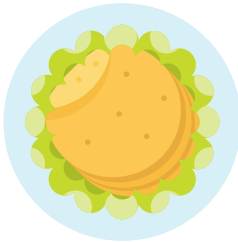
- Use a pot similar in size to the food you are cooking
- Make sure your pot has a tight fitting lid with no steam escaping
- Always put a cloth or newspaper inside the cooker under a hot pot
- Cook foods for the required amount of time
- Properly fluff out new foam smart cookers (especially if they were vacuum packed)
- Use the correct kind of cookware
- If you are using the smart cooker as a warmer, allow the pot to lose some heat for a few minutes off the stove before placing it inside the smart cooker

## DON'T

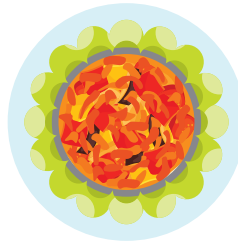
- Open the smart cooker or the pot while cooking
- Put a lukewarm pot into the cooker, as this may result in unsafe food
- Add boiling water to the pot while in the smart cooker, as this disrupts the cooking
- Leave too much empty space in the pot
- Add too much liquid to the pot, which may also result in runny food as the cooker doesn't reduce
- Place fully cooked food into the cooker, which may result in overcooked food

# WAYS TO USE YOUR SMART COOKER

There are many ways to use a smart cooker. To cook healthy food, to keep food warm, to keep food or drinks/ice cream cold or to keep plates warm for serving.



Keep rotis warm



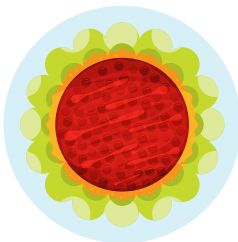
Keep stews warm



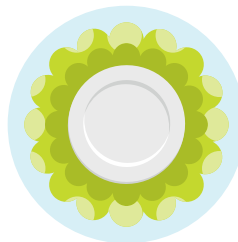
Serve food



Keep drinks cold



Keep desserts warm

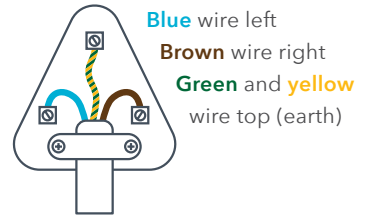


Keep plates warm

# HOME SAFETY GUIDE

## WIRING A PLUG

A plug that is wired incorrectly can result in electric shocks, burns and fire. To wire a plug correctly, put the wires into the correct sockets (see diagram) and turn the screws to secure them. Once screwed in, gently pull the three wires to make sure that they are not loose.



## FINDING A GAS LEAK

Check for leaks in your gas cylinder, piping and connections. To do this, turn the gas off at the cylinder. Check all connections. Slowly turn the gas on and brush the connections with soapy water or liquid detergent. Bubbles will form where the gas is leaking. If this happens, take the cylinder to a gas dealer to be checked, replaced or fixed. If you ever smell gas in your home, quickly open the windows and doors. Close the cylinder valve and leave the room. Have your cylinder checked, replaced or fixed as soon as possible.

## VENTILATION

When burning any fuel - gas, paraffin, coal or wood - always make sure the room remains well ventilated by keeping a window or door open. Smoke from burning fuel can cause illness and even death.

## OTHER SAFETY TIPS

- Make sure all kitchen knives are stored in a drawer away from children.
- Do not allow children or pets to play in the kitchen.
- Make sure that pot handles do not stick out over the front of the stove, where children can grab them or adults can bump into them.
- Switch off appliances before pulling out the plug and before cleaning them.
- Never leave food cooking on a stove unattended.

# HOW SAFE IS YOUR HOME?

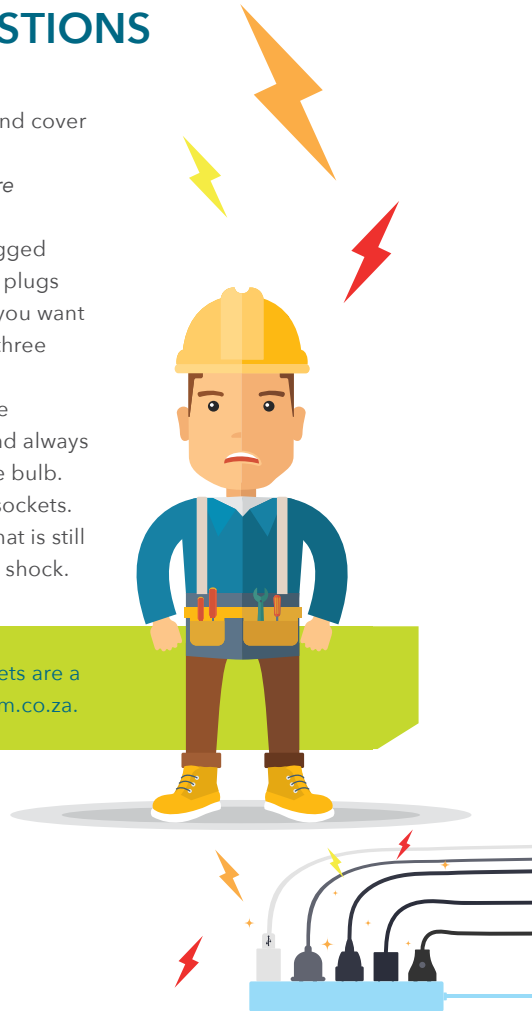
Take this quiz to find out how safe you and your family members are in your home.

Electricity	Yes	No
Electrical wires are kept far from any sources of heat, such as fires, stoves or candles.		
All wires are well insulated with no copper wiring exposed.		
Our electrical wires do not run under carpets.		
There are never more than three appliances in one plug socket at a time.		
We do not have electrical appliances in our bathroom or near water.		
All members of our household know that they must never pull a plug out from the socket while it is still switched on, or by pulling on the electric cord.		
All members of our household know that the appliance must be removed from the plug socket (with the socket switched off) before fixing or cleaning them.		
We always switch off the light before changing a light bulb.		

## HERE'S WHAT TO DO IF YOU ANSWERED 'NO' TO SOME OF THE QUESTIONS

- Use insulation tape to wind around and cover any exposed copper wires.  
*Note: Turn off the power mains, before touching exposed wires.*
- If you have too many appliances plugged into one socket, pull out some of the plugs and only plug in an appliance when you want to use it. Don't ever have more than three plugs in one socket at a time.
- Always switch off an appliance before removing its plug from the socket, and always switch off a light before replacing the bulb.
- Never put bare wires or fingers into sockets. Touching the wires of an appliance that is still plugged into a socket can give you a shock.

**WARNING:** Overloaded plug sockets are a safety risk. Read more on [www.eskom.co.za](http://www.eskom.co.za).



Paraffin	Yes	No
Our paraffin stove and lamps are clean and burn clearly.		
Paraffin is stored safely in a cupboard or packet on a hook out of the reach of children.		
Our paraffin bottles are clearly labelled. Paraffin is not kept in cool-drink or milk bottles that could confuse people, especially children.		
We use a funnel (or cut off top of a cool-drink bottle) and not a cup to pour paraffin into the lamps and stove.		
Our paraffin stove and lamps are always on level, sturdy surfaces and out of the way of playing children.		
Our paraffin lamps are always covered with a glass lamp shade and never burn with an open flame.		
Our paraffin is kept in a clean container and we never mix it with other fuels, such as methylated spirits, oil or petrol.		

## HERE'S WHAT TO DO IF YOU ANSWERED 'NO' TO SOME OF THE QUESTIONS



- Always store paraffin in a safe place where children cannot reach it. Containers need to be clearly marked, so that children will know not to drink it. Funnels used to pour paraffin into stoves and lamps should be stored with the paraffin. Do not use a mug or cup, as somebody may drink from it by mistake.
- Never mix paraffin with any other fuels - mixing fuels can be very dangerous and may cause explosions. Petrol and paraffin make a particularly dangerous combination. Sometimes, paraffin is accidentally mixed with a bit of petrol that may be left at the bottom of a transport tank. Smell your paraffin to check that it does not contain any petrol. If it has a pinkish colour, immediately return it to the retailer, and get them to contact their suppliers.
- Although more expensive than paraffin, fuel gel is a far safer option. A gel cannot be drunk and will not spill. This reduces the chances of poisoning and fire.

Candles	Yes	No
Candles in my home stand securely in candle holders at all times.		
Candles are placed well away from open windows and curtains.		
When we make a fire indoors we have a chimney for the smoke to escape out of.		
When making a fire outdoors we make sure it is well sheltered and that the fire is out when we go indoors or away.		
We always use dry wood for fires and/or low-smoke coal.		

## HERE'S WHAT TO DO IF YOU ANSWERED 'NO' TO SOME OF THE QUESTIONS

- Use candlesticks or old glass jars partially filled with sand to secure candles, preventing them from easily falling over. The sand will snuff out the flame if the jar is knocked over.
- Place candles in safe places. Window sills are unsafe as the wind may blow them over, or the flame may set curtains alight.
- Fire smoke can be very dangerous. Many people, particularly young children, die every year from indoor air pollution. Always make sure that there is a chimney to let smoke out of the house. Burn dry wood, or make sure you ask your coal dealer for low-smoke coal.



# ACCIDENTS IN THE HOME

## IN CASE OF AN ELECTRIC SHOCK

- Disconnect the main switch. If this cannot be done, disconnect the electricity at the wall plug to which the appliance is connected. If possible, use a non-conducting object, like a wooden or plastic broom or chair, to switch off the electricity at the plug.
- If the electricity cannot be disconnected, do not touch the victim, as you will also get a shock. Rather take hold of the person's clothing and drag them away. If the victim's clothing is wet, protect yourself by using dry rubber gloves, newspaper or plastic.
- Use a broom or chair to push the victim away from the electricity source.
- Evaluate the victim's breathing. Has it stopped or is it irregular? Check for a pulse and see whether the victim is conscious. Call an ambulance if the person is unconscious, not breathing and/or you cannot detect a heartbeat. For cases like this, it is a good idea to familiarise yourself with some basic first-aid techniques, such as mouth-to-mouth resuscitation and heart massage.

## IN CASE SOMEONE DRINKS PARAFFIN

- Do not try to make the person vomit. The fumes could enter their lungs and cause pneumonia.
- Do not give the person anything to drink or eat.
- Do not let the person lie down. Make them stand up or sit upright.
- Take the person to the clinic or hospital immediately and take the paraffin container with you.



## IN CASE OF FIRE

- Fires cannot burn without oxygen. Normal air contains 21% oxygen. Therefore, the best way to put out a fire is to smother it with sand or a blanket. This takes away the oxygen supply.
- Always keep a large bucket of sand or a large woollen blanket close to where you have your fire or stove. In case of fire, throw sand or a blanket directly onto the fire. Having a fire extinguisher is even better.
- Never throw water onto a fuel fire (such as petrol, paraffin or diesel fire), as this can cause the fire to spread. Water conducts electricity, and if the water touches bare electrical wires, it can give you an electric shock.
- If the fire is in a pot just put the lid on, as fire cannot burn without oxygen.
- If your clothes catch alight, do not run. Stop, drop, cover your face and roll on the ground to put out the flames.
- If your skin is burnt, first cool the burn in water, then go to the clinic or hospital.
- If your house has caught alight, get out as soon as you can. Crawl on your hands and knees to the nearest door. Hot air (smoke) rises. Therefore, crawling or keeping low will help you to remain below the toxic smoke and will help prevent suffocation from lack of oxygen.

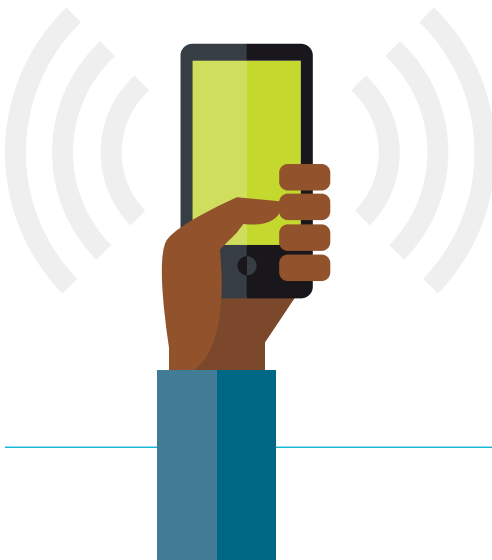


## IN CASE OF A SMALL BURN

- Keep the burn under a cold running tap or in cold water for 10 minutes. Do not apply ice.
- Do not rub Vaseline, oil or any other cream onto the burn, as it will cause the burn to spread.
- Go to a clinic or hospital if the burn is bigger than the size of a person's hand.
- If the victim has suffered a severe burn (for example, if a whole limb or more is affected), keep it under cold water (a tap, bath or shower) until help arrives or transport to a hospital can be arranged. This can save the person's life.

## EMERGENCY CALLS

- Find the correct emergency numbers for your area.
- Keep them within easy reach and store them on your cellphone.
- Tell all members of the household, kitchen or facility where they are and what they are for.
- Know where the nearest phone is.



# EMERGENCY CONTACT NUMBERS

## ALL EMERGENCIES

107

112 (toll-free) from a cellphone or 021 480 7700

## POLICE

10111

## RED CROSS CHILDREN'S HOSPITAL POISON LINE

021 689 5227

## TYGERBERG POISON INFORMATION CENTRE

021 931 6129

## FIRE CONTROL ROOM

021 590 1900

An illustration of a man with dark skin, wearing a yellow shirt and blue pants, sitting on a black ledge. To his right is a large, dark blue speech bubble containing text. Above the man, a white cloud is suspended by a black cord that loops and ends in a two-prong electrical plug. The background is a light blue wall with a white baseboard and a brown pillar. The floor is a mix of black and teal geometric shapes.

THE GREATEST  
THREAT TO OUR  
PLANET IS THE  
BELIEF THAT  
**SOMEONE ELSE**  
WILL SAVE IT.

- ROBERT SWAN







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Making progress possible. Together.