02. ANALYZE THE CHANGE IN TECHNOLOGY

M1U2P2

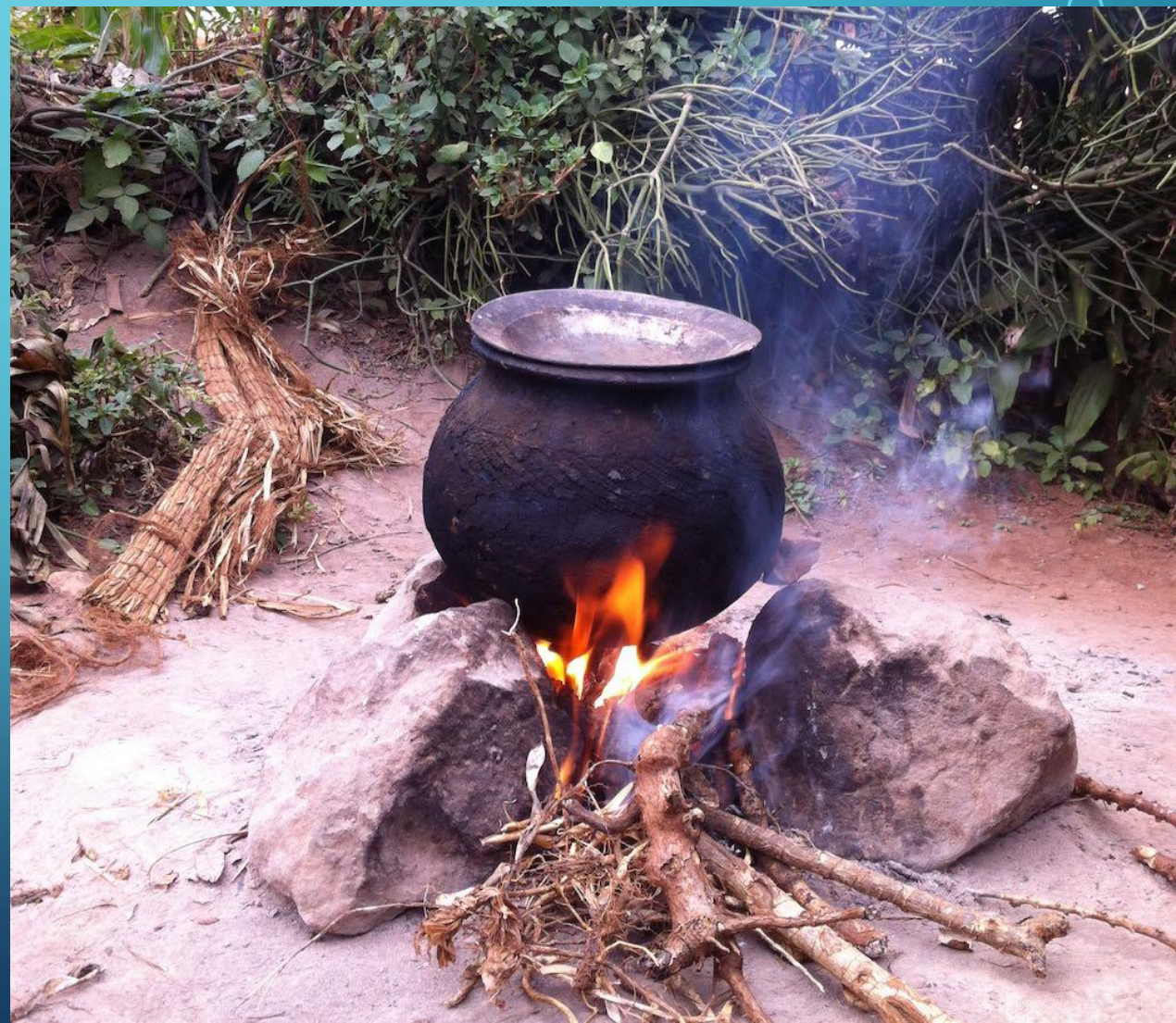
- After we have analyzed the changes of appliances and methods we can understand why they have changed
- Now we will focus on the cause why they have changed and how it reflected on our knowledge at that time

CHANGES IN STOVE TECHNOLOGY

- We have used stoves since we discovered fire
- It helped us in many ways to develop as humans
- Stoves have changed a lot through the history

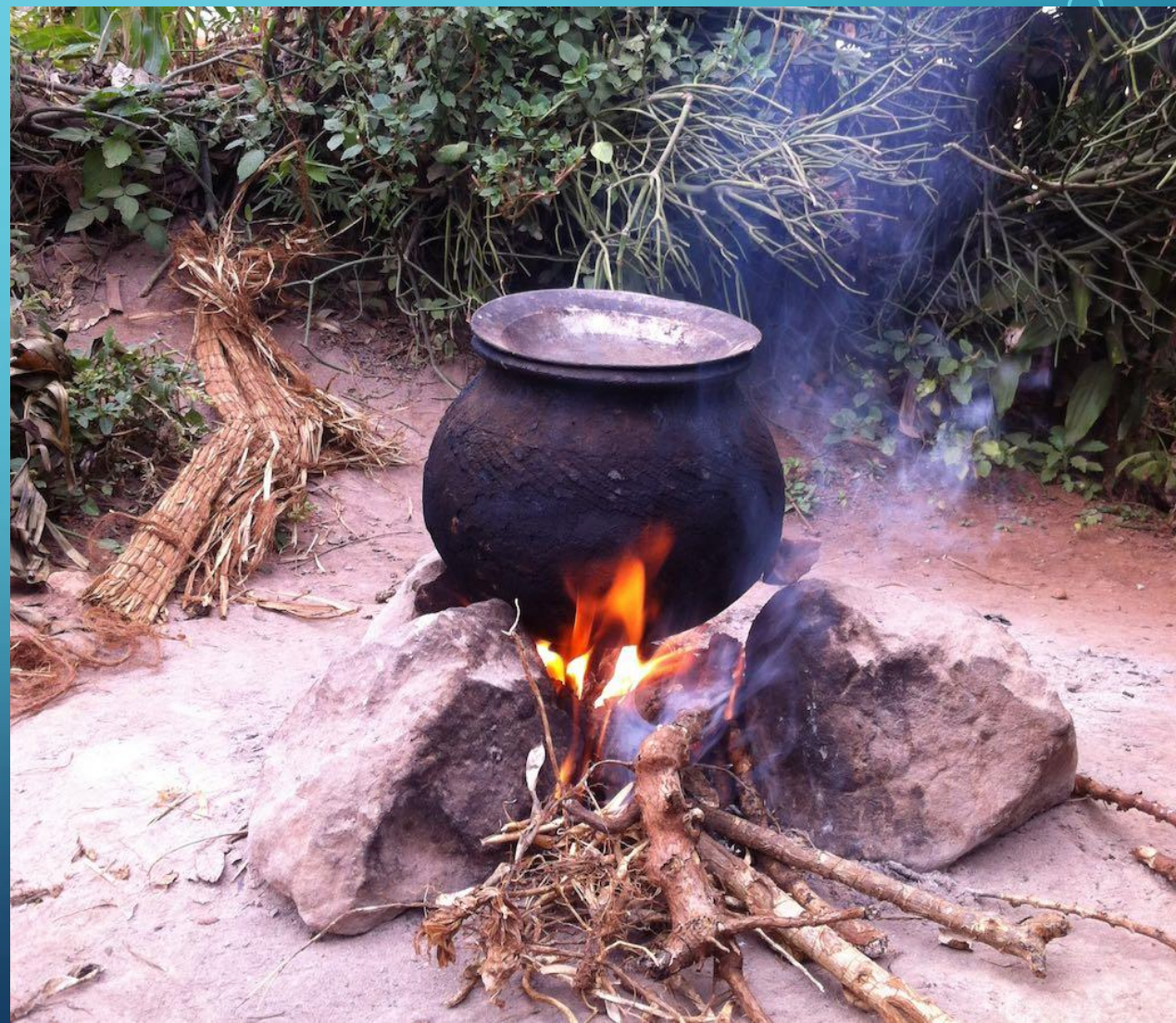
เตาก้อนเส้า

- One of the first stoves that we have used was made out of 3 large stones that were holding the pot above the flames
- What was the problem with this stove?



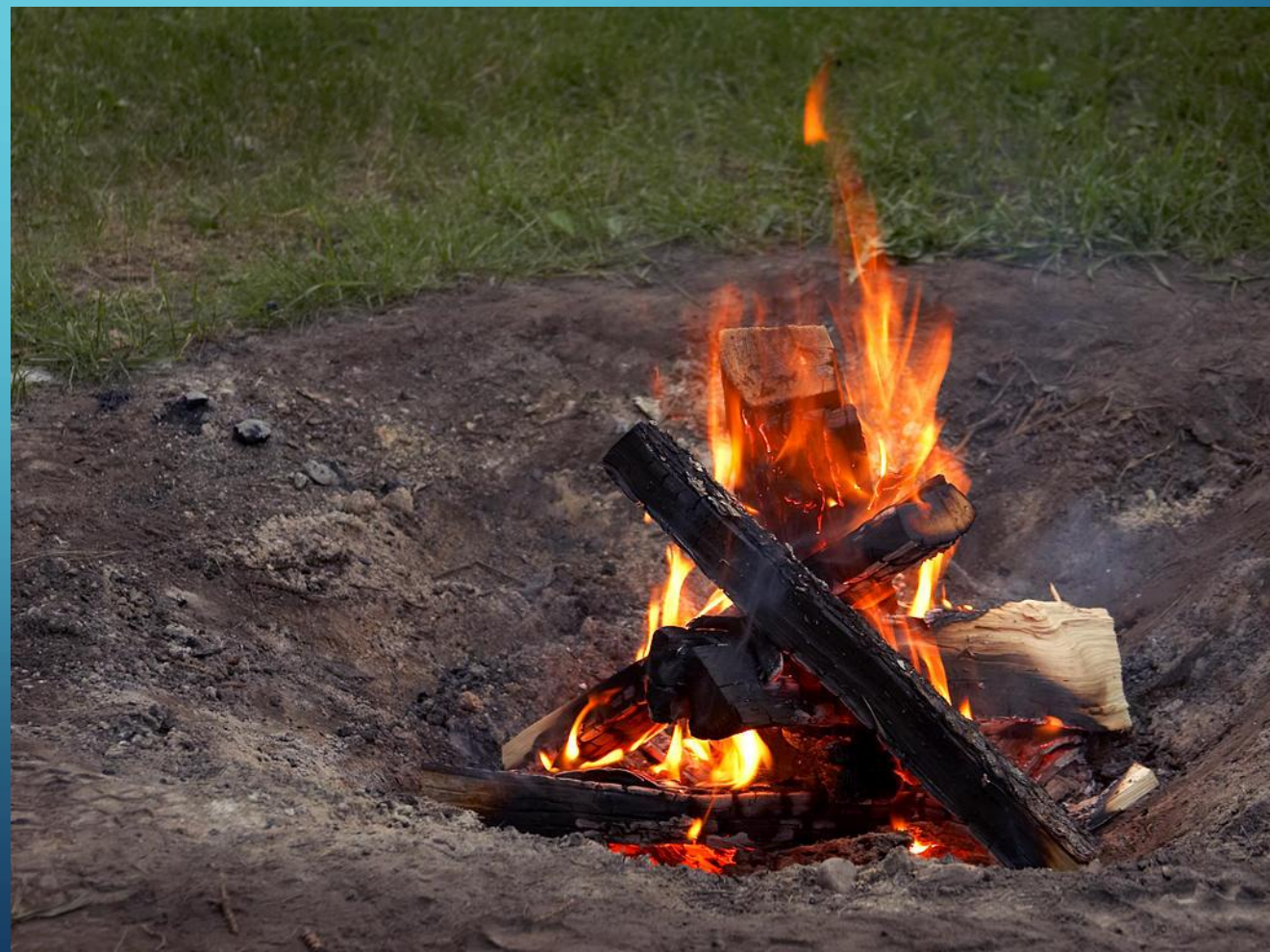
เตาก้อนเส้า

- One of the first stoves that we have used was made out of 3 large stones that were holding the pot above the flames
- One of the main problems was that we can’t control the heat and we can’t move it when using it



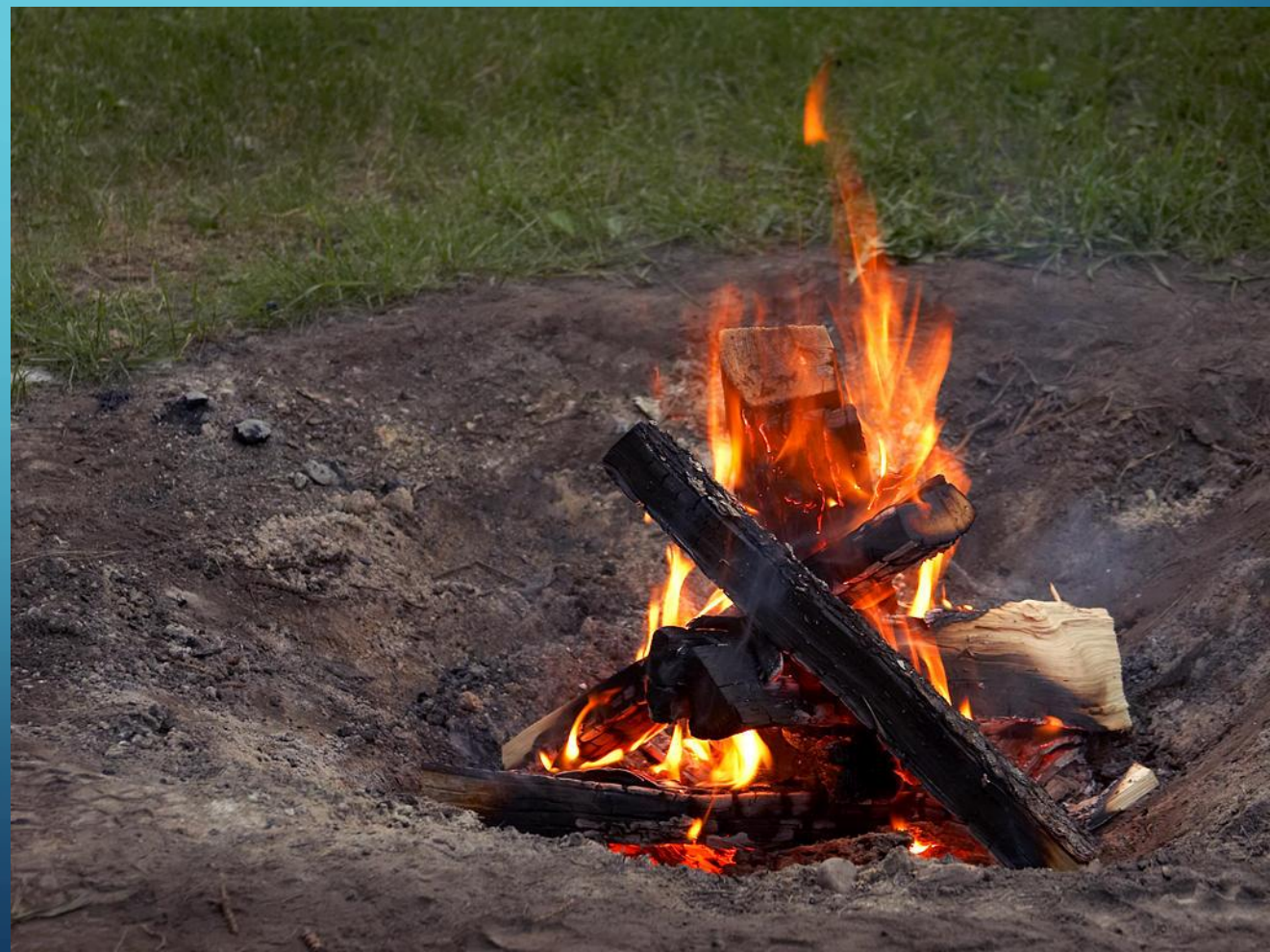
FIREPIT เตาฟืน

- After some time we have noticed that if we put the soil around the bonfire to make it contain the heat
- Looks better than the previous one
- What is the problem of this one?



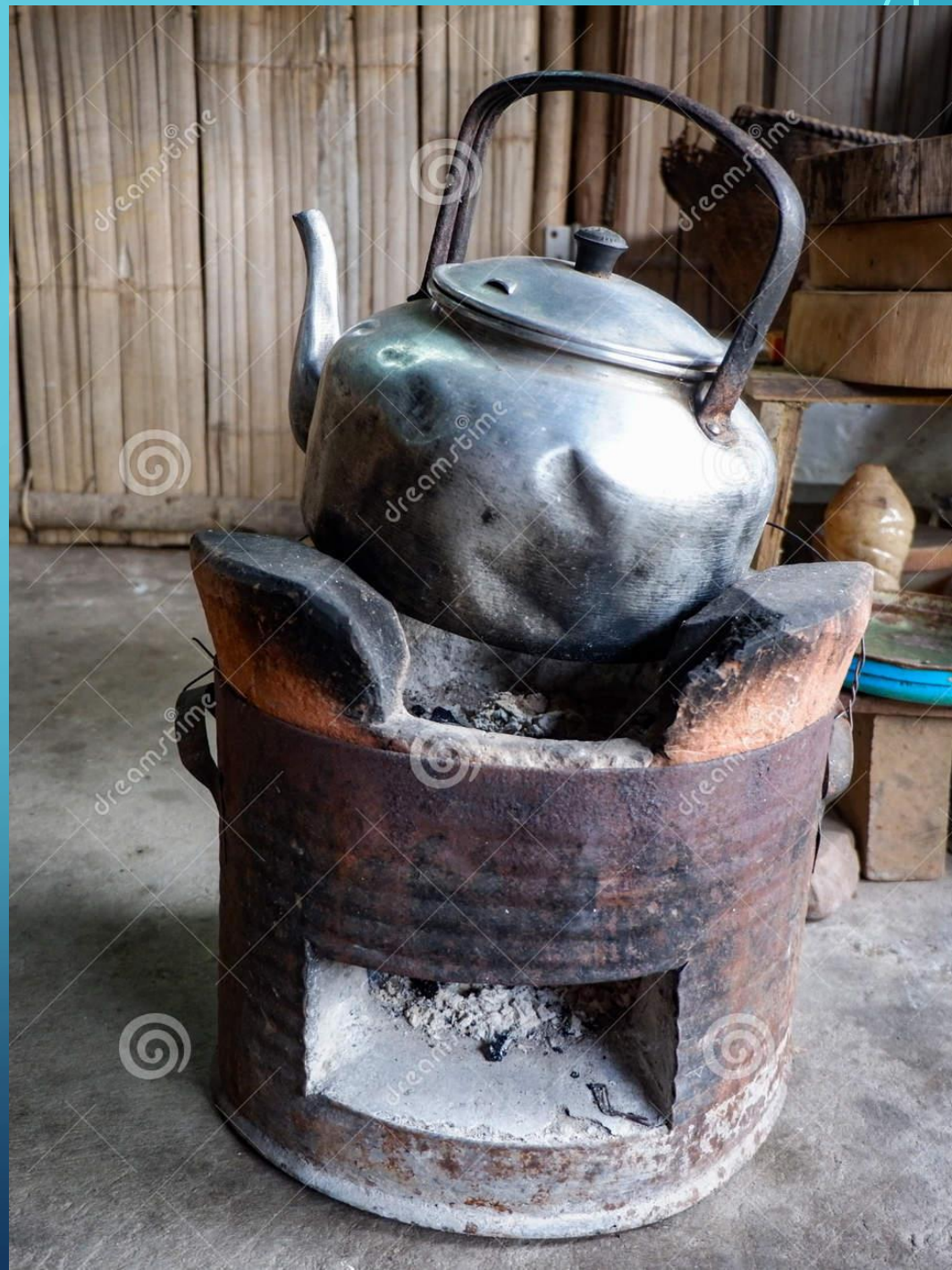
FIREPIT เตาฟืน

- After some time we have noticed that if we put the soil around the bonfire to make it contain the heat
- Looks better than the previous one
- We still can’t move it while using



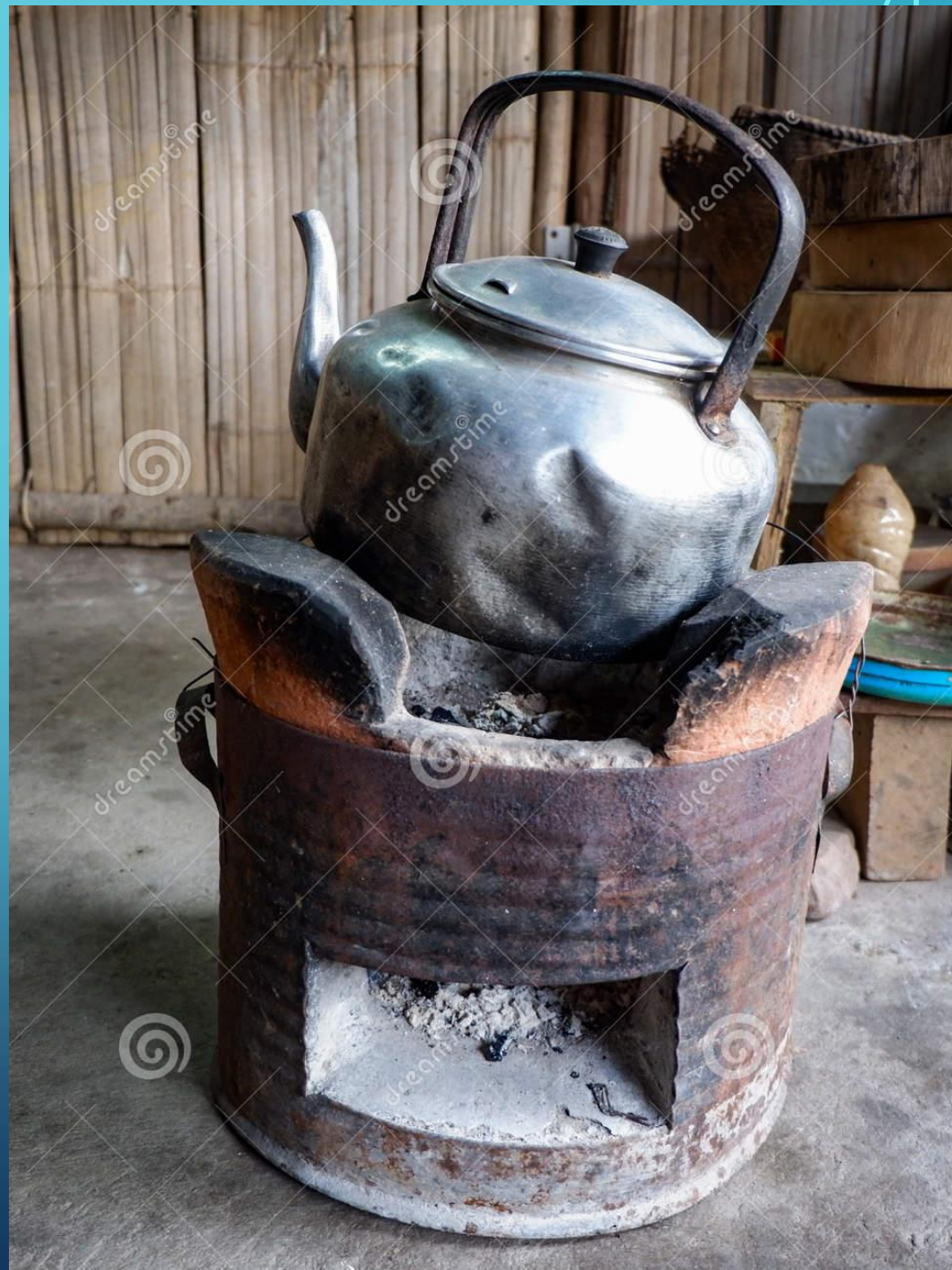
เตาอั้งโล่

- With the development of age and influences from other countries we started to have portable stoves
- Portable
- We can use firewood
- What is the problem?



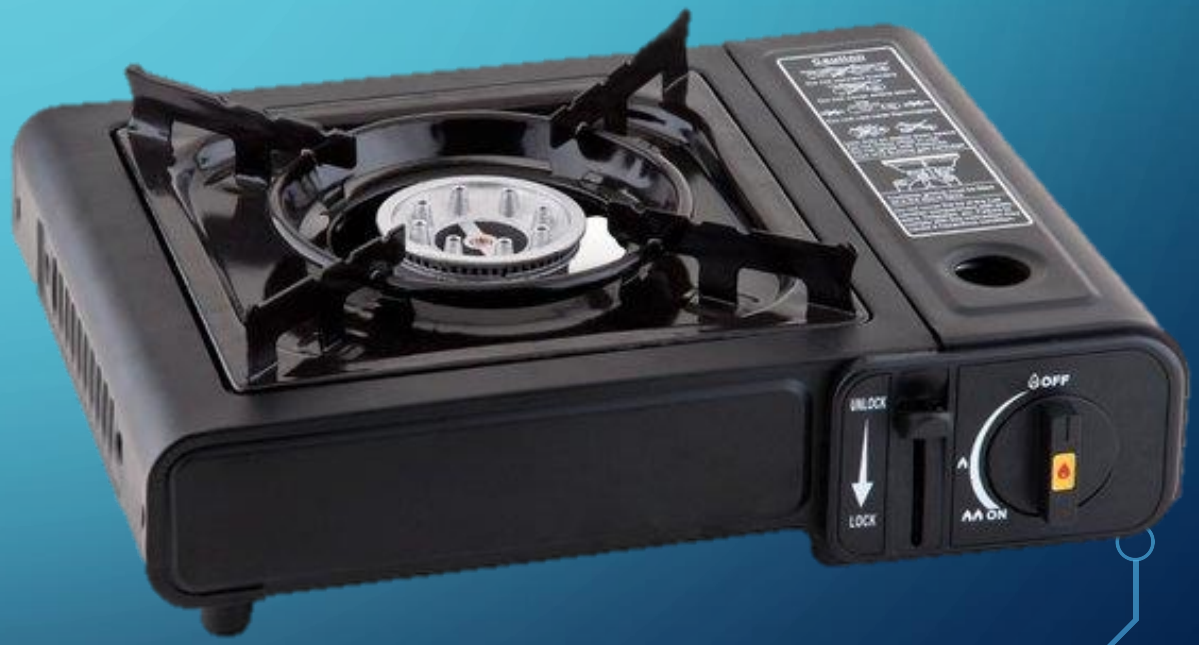
เตาอั้งโล่

- With the development of age and influences from other countries we started to have portable stoves
- Portable
- We can use firewood
- It takes time to start the fire, there is smoke



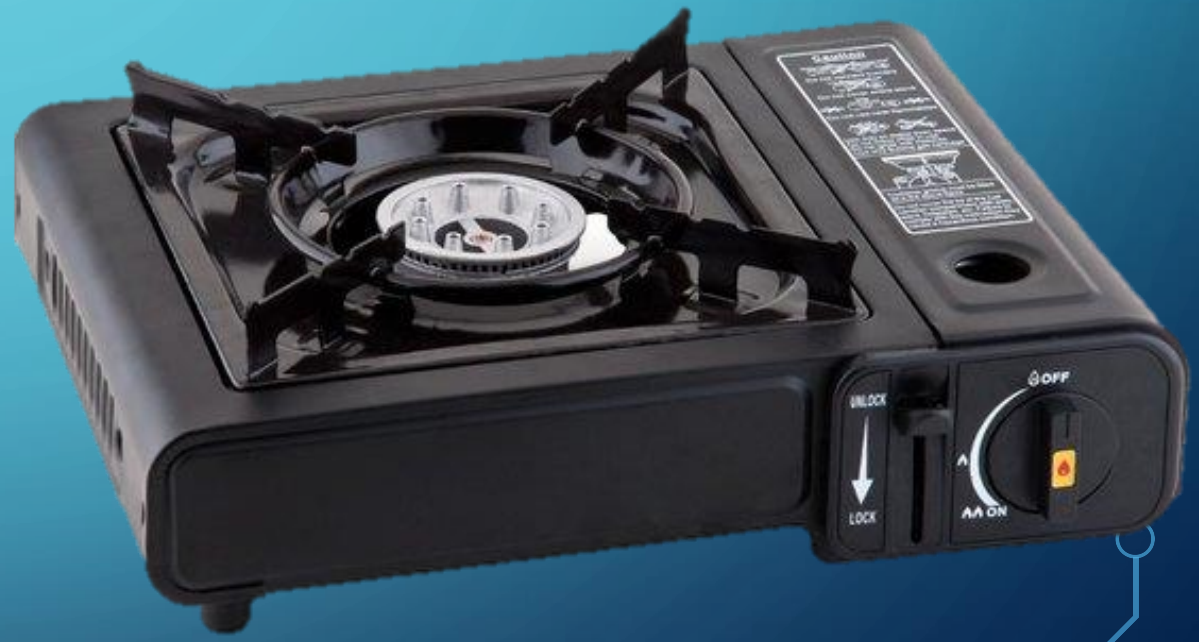
GAS STOVE

- After we started to use gas in our daily life we also improved our stove. So we started to use gas instead of wood
- It was easier to start the fire and control the heat
- What was the problem?



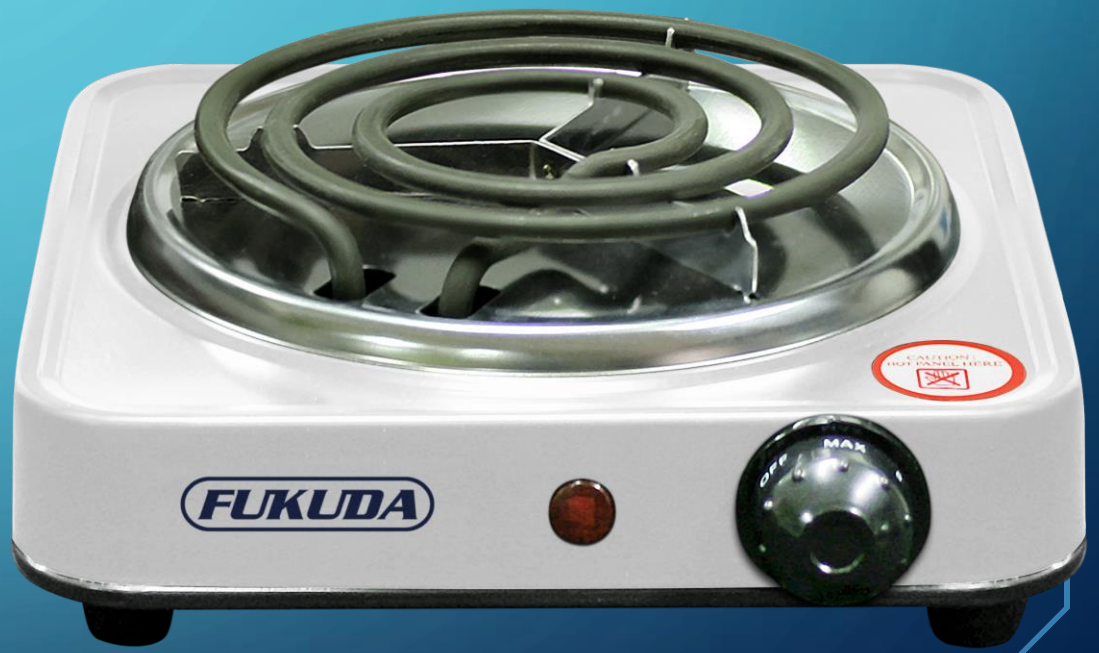
GAS STOVE

- After we started to use gas in our daily life we also improved our stove. So we started to use gas instead of wood
- It was easier to start the fire and control the heat
- You have to be careful when you use it so that the gas bottle doesn't explode, have to clean it after every use



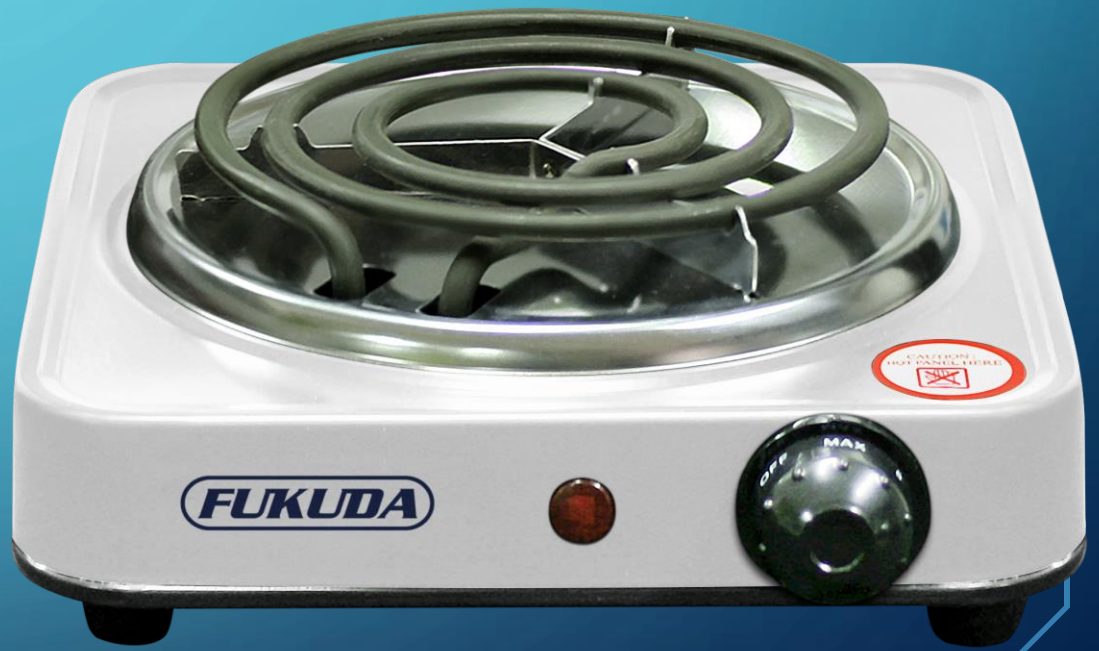
ELECTRIC STOVE

- After some time we have started to develop electric stoves that heat the metal coil using electricity
- It's more easier and a bit safer than the gas stove because there is no gas bottle
- What was the problem?



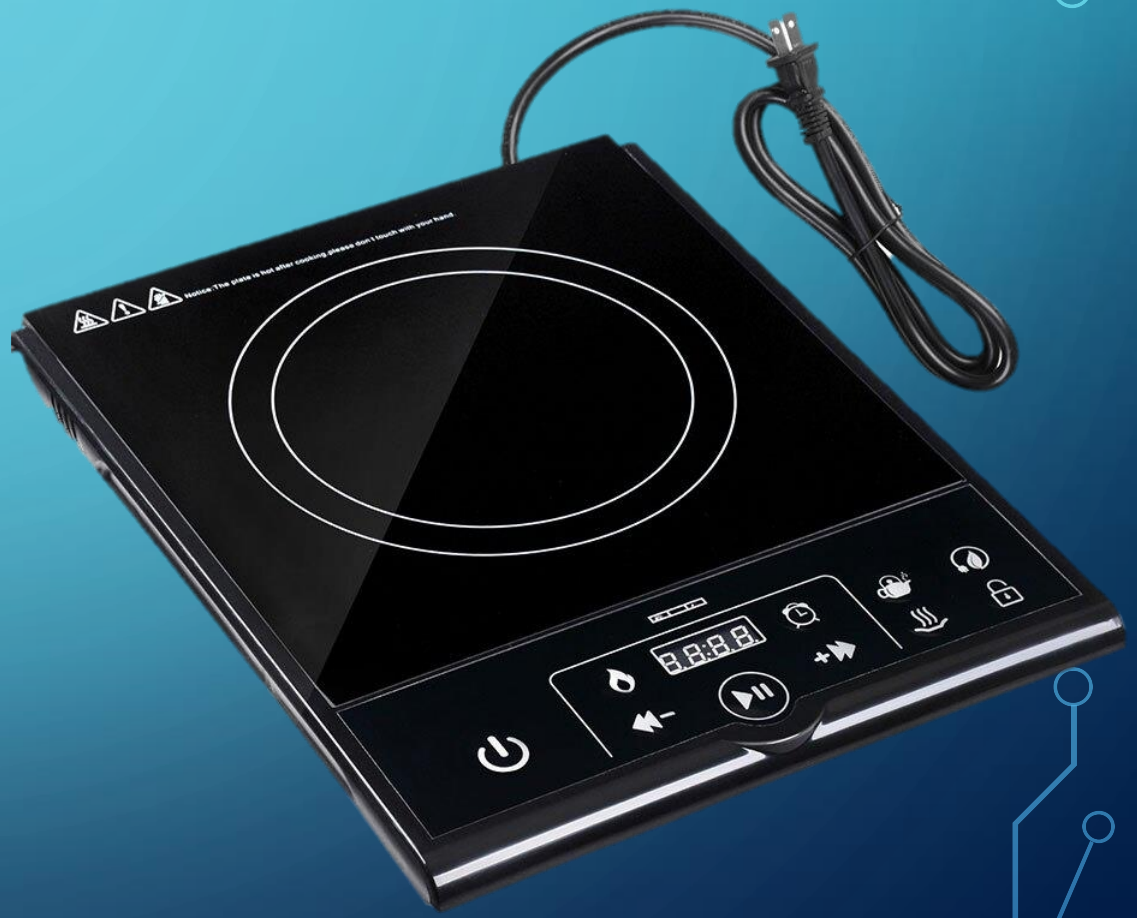
ELECTRIC STOVE

- After some time we have started to develop electric stoves that heat the metal coil using electricity
- It's more easier and a bit safer than the gas stove because there is no gas bottle
- The coil was unprotected so we had to be careful not to touch it



INDUCTION STOVE

- With the advantage of technology we have continued to improve our stoves, so we started to use magnetic stoves
- They use the magnetic field to heat up the pan that is one the induction plate
- Works only with metal pots and pans
- What is the problem?



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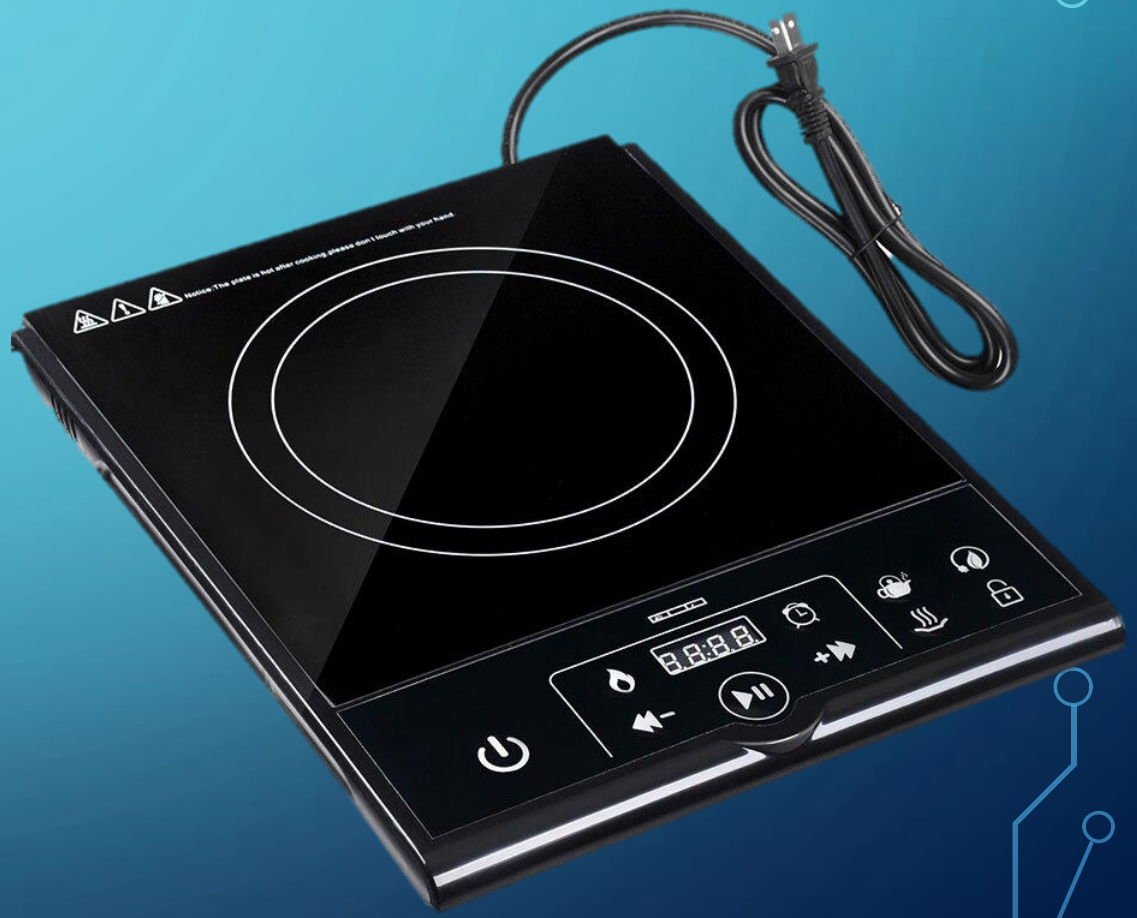
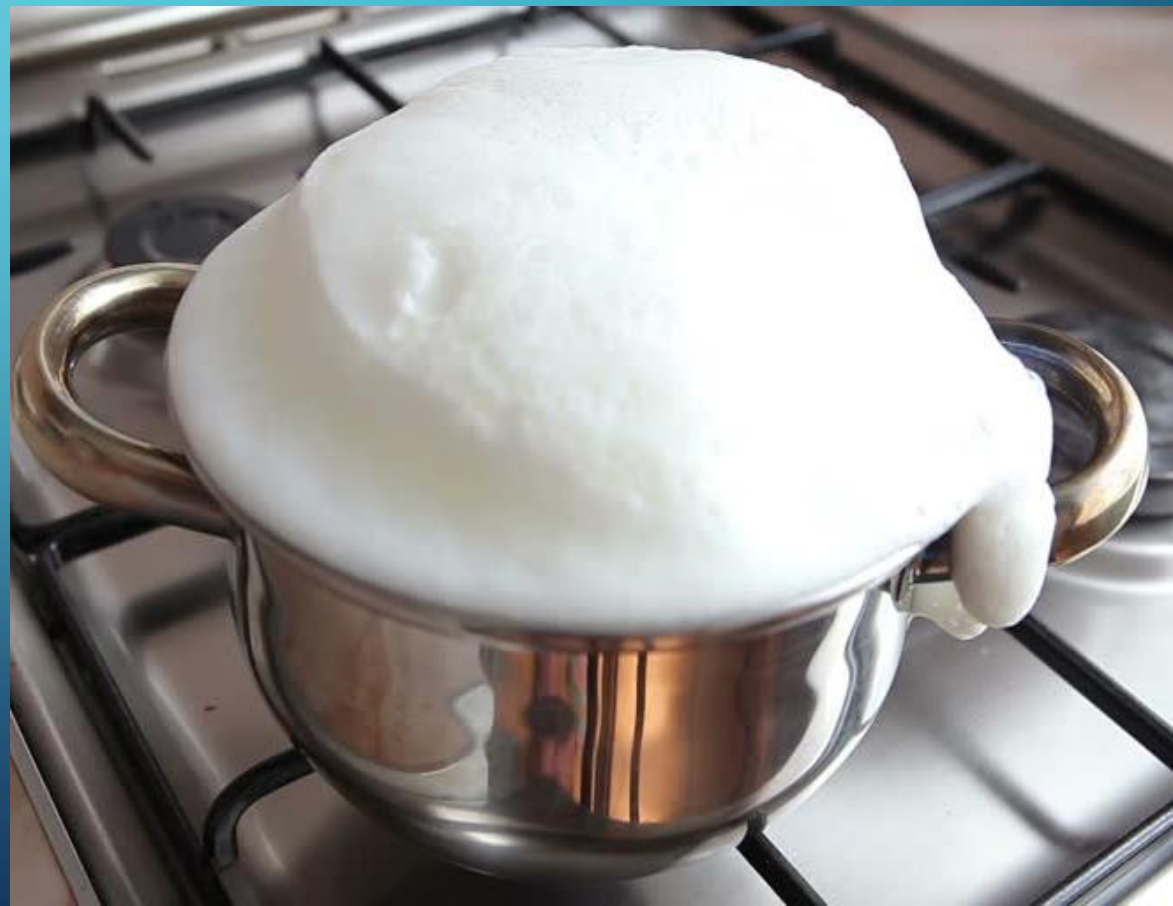


CHANGE OF TECHNOLOGY IN FOOD PRESERVATION

- As we are creating more and more food we need to think about how we can preserve it so we can store it for longer time
- In this example we will look at how the process of milk preservation changed

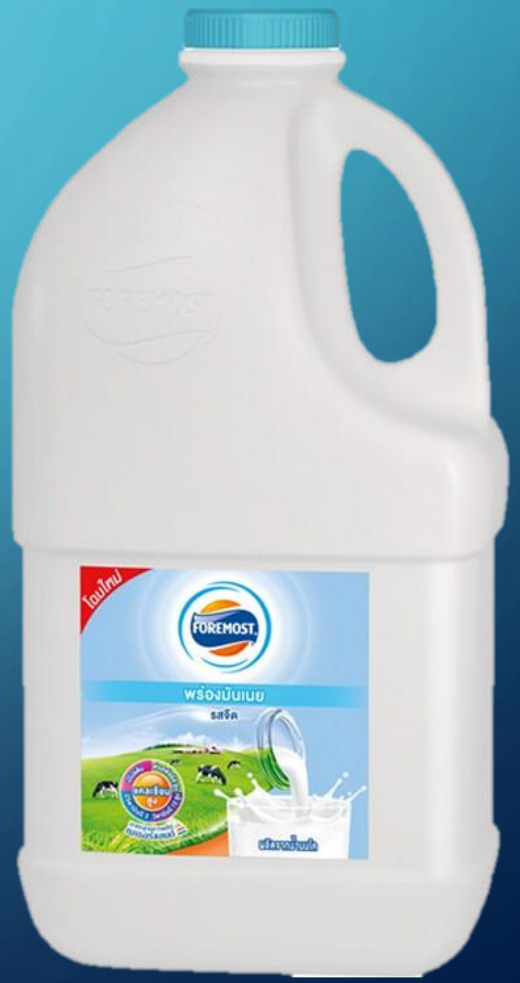
BOILING

- Boiling was one of the first methods we have used because it was very simple
- We boil it so we can easier kill the bacteria and microbes in the milk
- But it doesn't kill all of them
- The milk has to be kept in cold place if we want to keep it for some time, but not a long period



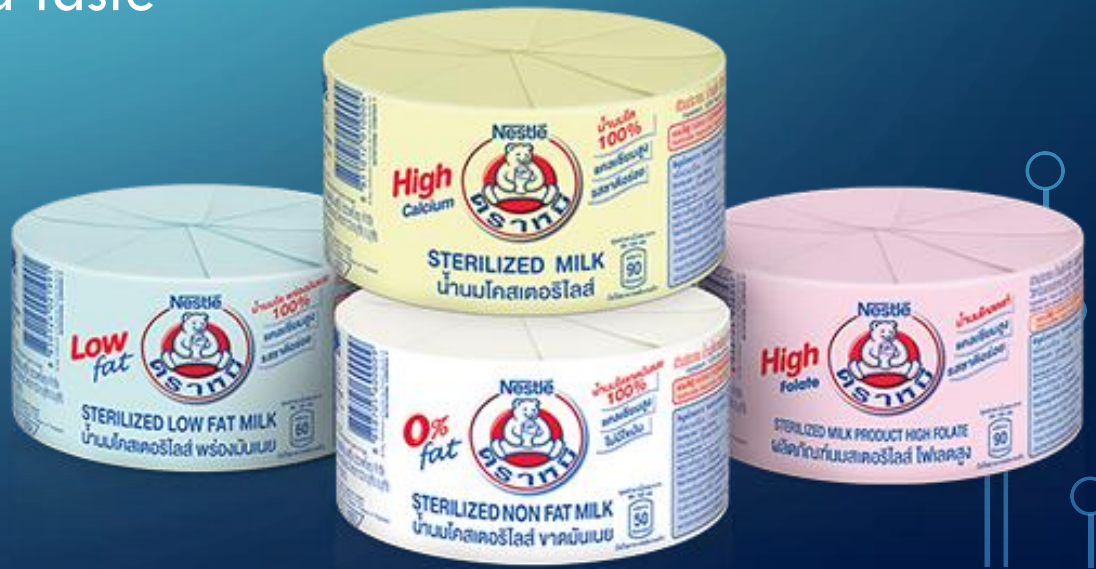
PASTEURIZATION

- We have to heat the milk in temperature above 63C and keep it like that for more than 30min and later we have to keep it in places colder than 5C
- Doesn't destroy nutrients and it doesn't change the taste of milk
- Reduces the microbes levels to a safe level for us humans
- Can keep for about 7-10 days in fridge



STERILIZATION

- Uses temperature more than 100C and we keep it for a long time at that temperature
- It kills the bacteria in milk so we can keep it for long time, even outside the fridge
- Looses some vitamins and changes color and taste

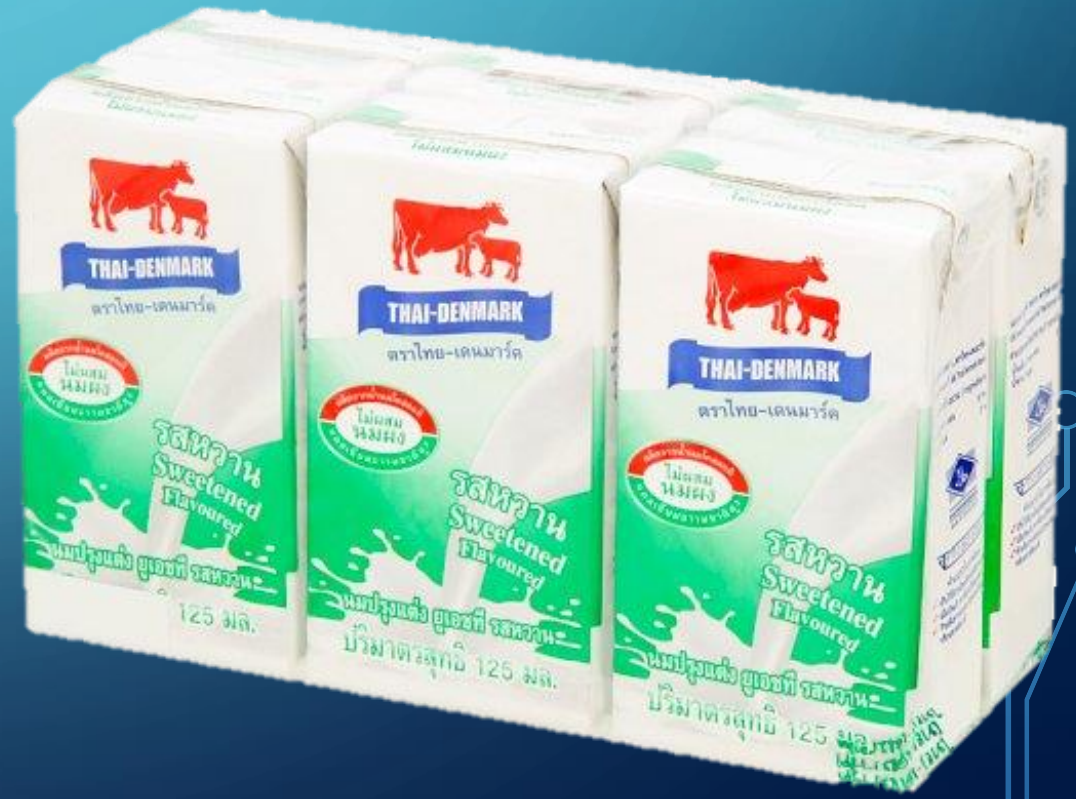


ULTRA HIGH TEMPERATURE UHT

We heat up the milk on 133C and keep it like that for few seconds

It will lose some vitamins and taste, but kills all the bacteria

We can keep it without fridge
for 6-8 months



DRY MILK

- We use the knowledge from science and technology to evaporate the liquid part of the milk and keep the nutrients and vitamins as powder
- It looses the smell but it is the most famous way to keep the milk for long time and very easy to transport

CONCLUSION

- Tools and methods change over the time
- There are many reasons that can cause a change, or an improvement of our tools
- Some changes are reflected on our advancement in technology, some are reflected in changes of economies and societies
- The widespread popularity of technology also affected the producers because they needed to think of new ways how to produce and how to price their products

- Changes in technology also affect our needs and our daily lives in social and economic environment
- For example, touch screens affected us to use more electronic devices that use touch screens
- Internet communication affected us in how we communicate with people in our daily lives
- How the technology affects our daily lives it also affects the nature itself
- Some of the technologies affect nature in a good way and some in bad so we need to be careful what kind of technology do we use

ANY QUESTIONS?

THE END