

# CAST IRON & STEEL



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# Iron Oxide



**When iron oxide is heated at high temperatures of 1600 to 3000°F the oxide is reduced to the metal and the resulting reaction can be expressed as:**

**Iron Oxide + Carbon heated along with a blast of air yields Iron + Carbon Monoxide (a gas released into the air)**



# STEEL

*Steels are alloys of iron and other elements, primarily carbon .That percent of carbon is 2% .*

*The carbon in typical steel alloys may contribute up to 2.1% of its weight*



*In the figures you can see the steel*

# Used in ...



**Widely used in construction and other applications because of their high tensile strengths and low costs. Steel is used to make beams, door,**



# Alloy of steel

The steel melts in martens, converters and in electric ovens. Widely used in construction and other applications because of their high tensile strengths and low costs.



# Cast Iron



***Cast iron is the material produced by remelting this iron ,if the percent of the carbon is 2%-6% . The properties of cast iron is that it is brittle, more damping and absorbs vibration and noises.***



# Cast Iron






# Used in ...



**Cast iron has been used to make pipelines and guttering in the past. It is still used for making manhole covers, cylinder blocks in the engines of cars, and for very heavy and expensive cooking utensils, besides its other uses as a construction material.**



# Alloy of Cast Iron



Cast Iron makes in a completed cycle metallurgy factories. Uses like an iron.



# Difference of Cast Iron vs Steel




- **Cast iron is cheaper than steel**
- **Cast Iron has a low melting point**
- **Steel is milder than Cast iron**



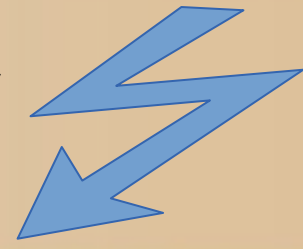
# Industry in Kazakhstan



In our Republic the stock of qualitative iron located in Torgay. The ore locations like a Sokolov-Sarybay, Lisakov, Ayet are provide with metal. In 2008, in Karagandy built «ARSELOR METAL TEMIRTAU». This company has an important role for produce prokat and metals. The value of the project was 150 million \$.



# ARCELOR MITTAL TEMIRTAU



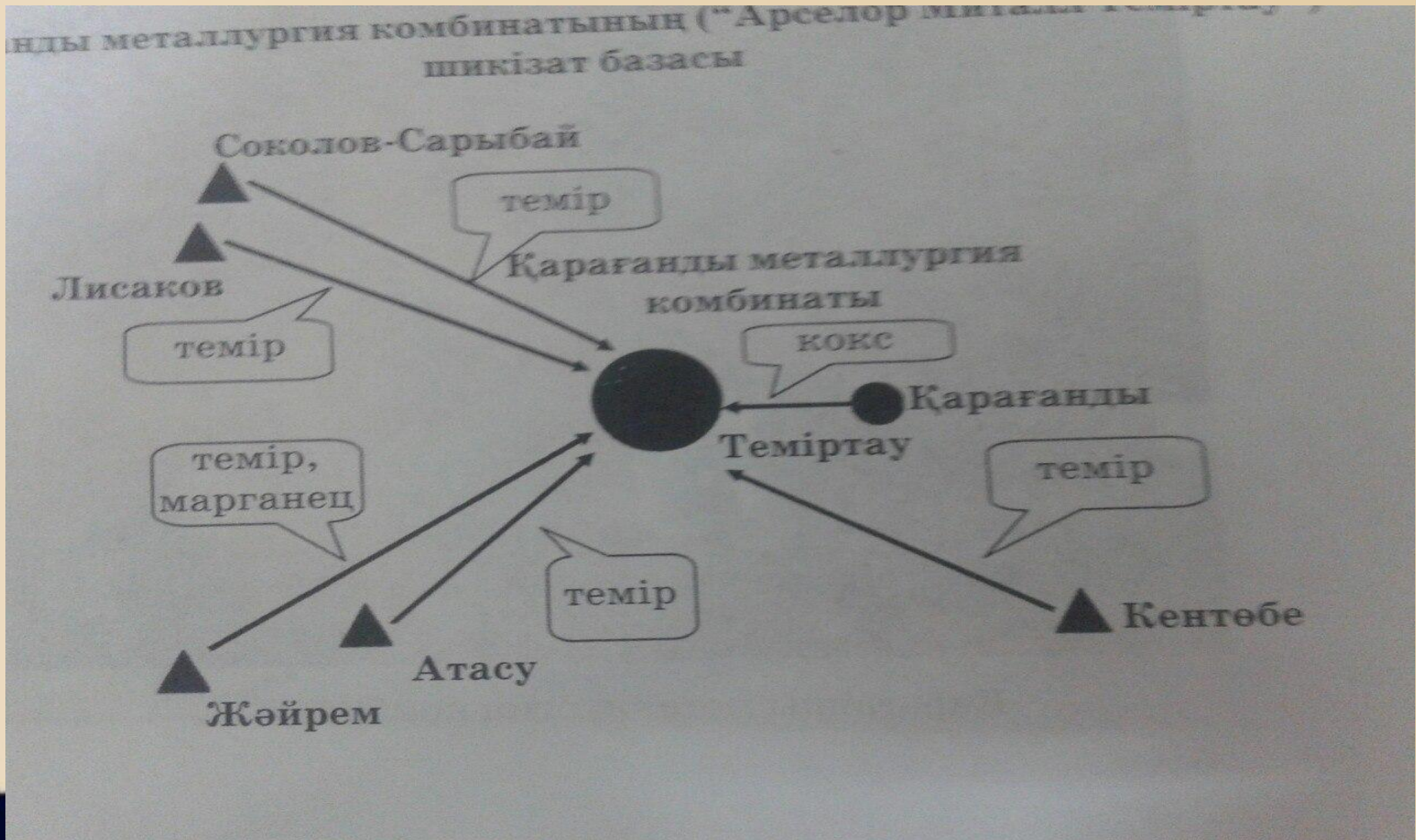
# Kazakhstan



**The stock of iron — 8.7 billion  
tonna.  
Located on 8 place in the world.**



# It is raw material base of Arcelor Mittal Temirtau



# Questions

- Which metal's carbon percent is 2%-6%?
- What is the steel?
- Which metal has a low melting point?
- When built «ARSELOR METAL TEMIRTAU»?
- \_\_\_\_\_ is used to make beams, door?





***Thanks!***

