

Iron and steel

Before you answer the puzzles below fill in the table of iron and steel alloys using:

malleable	cast iron	iron with 1% carbon	resists corrosion
metal	composition		properties
wrought iron	iron with very little carbon		soft and malleable
	iron with 4% carbon		brittle and hard
low-carbon steel	iron with 0.2% carbon		
high-carbon steel			hard
stainless steel	iron with chromium and nickel		

Gridlock 1

Each row, column and 2 x 2 box contains each of the first four metals listed in the table. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

metal		composition	
	wrought iron		iron with 1% carbon
			iron with very little carbon
iron with 4% carbon			low-carbon steel
composition		metal	

gridlocks – can you unlock the grid?

Gridlock 2

Each row, column and 2 x 2 box contains information about cast iron, low carbon steel, high carbon steel and stainless steel.

metal		composition	
low-carbon steel			iron with 4% carbon
			resists corrosion
iron with 1% carbon			
composition		properties	

Gridlock 3

Each row, column and 2 x 2 box contains information about cast iron, low carbon steel, high carbon steel and stainless steel.

metal		properties	
low-carbon steel			brittle and hard
	hard		iron with chromium and nickel
properties		composition	

gridlocks – can you unlock the grid?

Iron and steel – answers

Before you answer the puzzles below fill in the table of iron and steel alloys using:

malleable	cast iron	iron with 1% carbon	resists corrosion
metal	composition		properties
wrought iron	iron with very little carbon		soft and malleable
cast iron	iron with 4% carbon		brittle and hard
low-carbon steel	iron with 0.2% carbon		malleable
high-carbon steel	iron with 1% carbon		hard
stainless steel	iron with chromium and nickel		resists corrosion

Gridlock 1 – answers

metal		composition	
low-carbon steel	wrought iron	iron with 4% carbon	iron with 1% carbon
high-carbon steel	cast iron	iron with 0.2% carbon	iron with very little carbon
iron with very little carbon	iron with 0.2% carbon	high-carbon steel	cast iron
iron with 4% carbon	iron with 1% carbon	wrought iron	low-carbon steel
composition		metal	

gridlocks – can you unlock the grid?

Gridlock 2 – answers

metal		composition	
low-carbon steel	high-carbon steel	iron with chromium and nickel	iron with 4% carbon
stainless steel	cast iron	iron with 0.2% carbon	iron with 1% carbon
iron with 4% carbon	iron with 0.2% carbon	hard	resists corrosion
iron with 1% carbon	iron with chromium and nickel	brittle and hard	malleable
composition		properties	

Gridlock 3 – answers

metal		properties	
low-carbon steel	stainless steel	hard	brittle and hard
high-carbon steel	cast iron	resists corrosion	malleable
brittle and hard	hard	iron with 0.2% carbon	iron with chromium and nickel
resists corrosion	malleable	iron with 4% carbon	iron with 1% carbon
properties		composition	