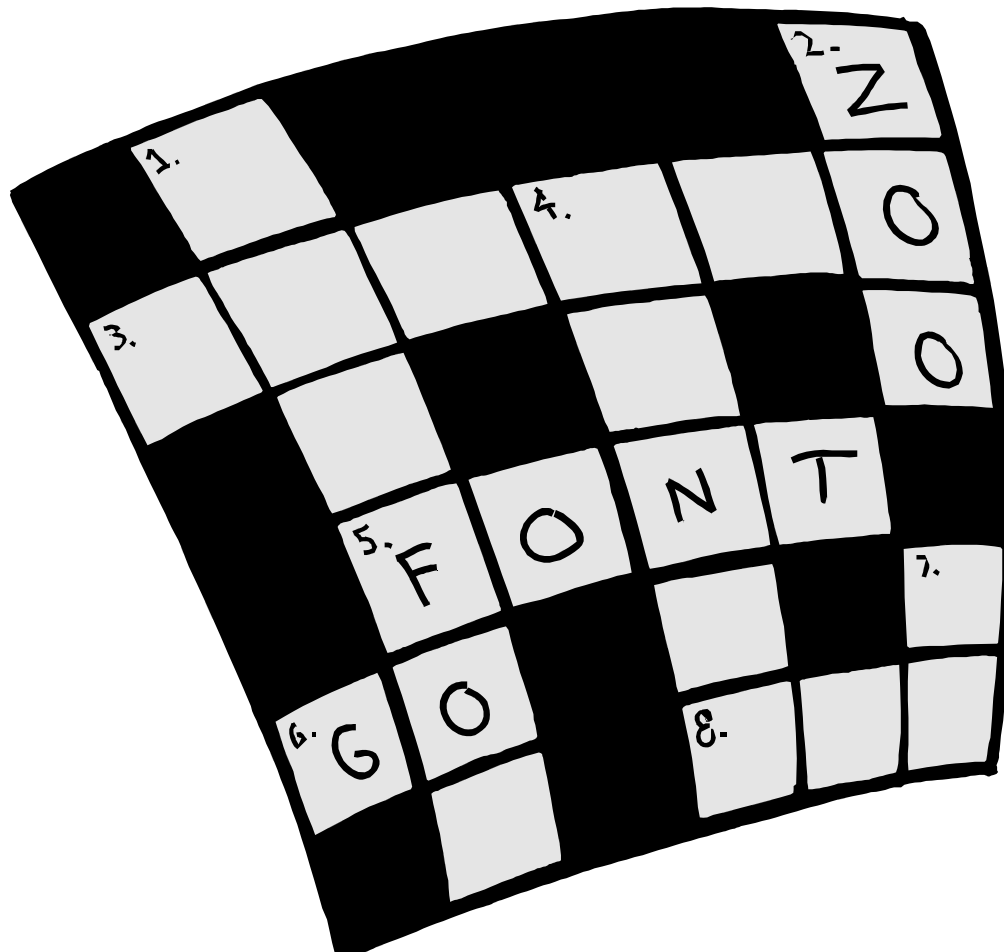


Crosswords Solutions Booklet



Computers

Across

1. INPUT — Devices the user uses to give the computer information. (5)
3. OPERINGSYSTEM — The programme that interacts with the physical parts of the computer and the general computer programmes. (15)
8. MEGABYTE — What does MB stand for ? (8)
9. GIGABYTE — What does GB stand for ? (8)
11. OUTPUT — Devices the computer uses to give the user information. (6)
12. HARDWARE — The physical parts of a computer system. (8)
14. RANDOMACCESSMEMORY — What does RAM stand for ? (18)
16. CNCLATHE — Computer controlled Lathe. (8)
17. SCANNER — Computer device for copying documents and pictures. (7)
18. CDRW — Abreviation fo a Compact Disk that can be written to many times and erased. (4)
19. BIT — Short for Binary Digit. (3)
21. MOUSE — Device for moving the pointer around the screen. (5)
23. HARDDISK — Main internal storage area of a computer. (8)
24. BYTE — Eight bits (4)
25. INTERNET — A world wide network of computers. (8)
27. KILOBYTE — What does KB stand for ? (8)
29. VISUALDISPLAYUNIT — What does VDU stand for ? (17)
30. SPEAKERS — Device that the computer uses to output sound. (8)
31. KEYBOARD — Device for inputting text into the computer. (8)

Down

2. UNIVERSALSERIALBUS — What does USB stand for ? (18)
4. SOFTWARE — The programmes that run on a computer. (8)
5. READONLYMEMORY — What does ROM stand for ? (14)
6. DIGITALCAMERA — Device for taking photos and inputing them to the computer. (13)
7. CENTRALPROCESSINGUNIT — The 'brain' of the computer. (21)
10. DIGITALVERSATILEDISK — What does DVD stand for ? (20)
13. WORLDWIDEEWEB — What does WWW stand for ? (12)
15. COMPACTDISK — Full name for a large circular storage device. (11)
16. CDR — Abreviation fo a Compact Disk that can be written to once. (3)
20. CDROM — Abreviation for a normal Compact Disk. (5)
22. MONITOR — Proper name for the computer screen. (7)
26. PLOTTER — Device for producing line drawings on paper. (7)
28. VIRUS — A computer programme that can damage files on the computer. (5)

Decorative Metalwork

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Decorative Metalwork

Across

1. MOTTLING — Using a wooden dowel and a drilling machine to make a pattern on metal. (8)
5. ETCHING — Using acid to 'eat' away a design into metal. (7)
7. REPOUSSE — Forming a raised design using a hammer and punches. (8)
8. PITCH — Soft tar like material used for some forms of Decorative Metalwork. (5)
9. HAMMERING — Using the ball end of a hammer to produce a pattern on metal. (9)
11. ENGRAVING — Cutting of design into metal with sharp tools. (9)
12. ENAMELLING — Fusing glass to metal in a furnace. (10)

Down

2. LACQUERING — Applying a varnish to metal to preserve the surface finish. (10)
3. DIPCOATING — Covering metal pieces in a plastic layer. (10)
4. POLISHING — Using a buffer and wax to increase the shine on a piece. (9)
6. PUNCHING — Using a hammer and various shaped punches to put a pattern in metal. (8)
10. KILN — Proper name for the furnace used for Enamelling. (4)

Drilling

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Drilling

Across

1. ADJUSTABLEDEPTHSTOP — The part of a Drilling Machine which allows you to set the depth to be drilled. (19)
4. PILOTHOLE — A small hole drilled before using a large drill bit. (9)
7. CENTREPUNCH — The tool used to dent metals before drilling. (11)
9. CHUCK — It holds the drill bit while drilling. (5)
11. DIAMETER — The distance from a point on a circle to the opposite point through the centre. (8)
14. FEEDLEVER — The part of the Drilling Machine which allows you to push the drill into the work. (9)
15. PI — We give it a value of 3 when calculating the Spindle Speed. (2)
16. FLUTE — The part of a drill bit that allows the swarf out and coolant in. (5)
17. GOGGLES — What you should always wear when drilling. (7)
20. MORSETAPERSLEEVE — Used to hold big drill bits that are too small for the Drilling Machine spindle. (16)
21. POINTANGLE — On a standard drill bit it equals 118°. (10)
22. TAPPINGSIZEHOLE — What do you drill before using a Tap ? (15)

Down

2. PULLEY — Some Drilling Machine use a stepped version of these and a Vee Belt. (6)
3. BLINDHOLE — You cannot see through this. (9)
5. MACHINEVICE — What do we use to hold work while drilling ? (11)
6. REAMER — Used after drilling to ensure a very accurate hole size. (6)
8. CHUCKGUARD — This protects you from a flying drill bit. (10)
10. CHISELEDGE — The tip of a Drill Bit. (10)
12. RADIUS — The distance from the centre of a circle to the circumference. (6)
13. DRIFT — Used to remove a large drill bit from the Spindle of a Drilling Machine. (5)
18. SHANK — The part of a Drill Bit held in the Chuck. (5)
19. CASTIRON — The metal the Table and Base of a Drilling Machine are made from. (8)

Electricity

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		O																U					E		
		³⁵ N	E	U	T	R	A	L										³⁶ R	E	S	I	S	T	O	R

Electricity

Across

2. ALTERNATING — The type of current that flows one direction for a split second and the opposite direction for the next split second, in a circuit. (11)
7. TUNGSTEN — The name of the metal used in a bulb to generate light. (8)
9. THERMISTOR — A type of Resistor which changes resistance depending on how warm it is. (10)
10. CAPACITOR — They store electric charge. (9)
14. CONDUCTOR — Something which allows electricity to flow through it easily. (9)
15. OHM — The unit of Resistance. (3)
17. LED — Abbreviation for a type of diode which gives out light. (3)
18. EARTH — The top terminal in a plug. (5)
20. GREENANDYELLOW — The colours of the Earth wire. (14)
22. FILAMENT — The name for the wire that lights up in a bulb. (8)
25. RESISTANCE — The force that slows down the movement of electrons in a circuit. (10)
27. MOTOR — Uses electricity to turn items. (5)
30. ELECTRON — The negative part of an atom. (8)
32. VOLTAGE — The pressure that moves electrons around a circuit. (7)
34. INSULATOR — Something which does not allow electricity to flow through it. (9)
35. NEUTRAL — The right terminal of a plug. (7)
36. RESISTOR — A component which slows down the flow of electricity in a circuit. (8)

Down

1. CURRENT — The flow of electrons. (7)
2. AMMETER — Used to measure current. (7)
3. GENERATOR — Used to create electricity. (9)
4. MULTIMETER — Used to measure Voltage, Current or Resistance in a circuit. (10)
5. LDR — Abbreviation for a resistor which is dependant on the light level. (3)
6. FUSE — The weak link in a circuit. (4)
8. DIRECT — The type of Current that flows one direction in a circuit. (6)
11. TRANSISTOR — A high speed electronic switch. (10)
12. BATTERY — A number of cells together. (7)
13. VOLT — The unit of Voltage. (4)
16. METALLIC — The type of Primary Bond in Metals. (8)
19. VOLTMETER — Used to measure Voltage. (9)
21. LIVE — The left terminal of a plug. (4)
23. DIODE — Only allows electricity to flow one direction through it. (5)
24. SERIES — A type of circuit where the components are lined up one after the other. (6)
26. AMPERE — Full name for the unit of current. (6)
28. BROWN — The colour of the Live wire. (5)
29. PROTON — The positive part of an atom. (6)
31. BUZZER — Creates a continuous electronic noise. (6)
33. BLUE — The colour of the Neutral wire. (4)

Fitting And Assembly I

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Fitting And Assembly I

Across

1. PLUGTAP — Tap used to finish tapping or to tap a Blind Hole. (7)
6. ACME — The type of thread used on leadscrews of lathes. (4)
7. SECONDTAP — Another name for an Intermediate Tap. (9)
11. TAPER — The Tap with the least amount of full teeth. (5)
12. SCREWDRIVER — Tool used to loosen or tighten screws. (11)
13. LOCKNUT — A type of nut with a nylon insert. (7)
14. HEXAGON — The shape of a nut. (7)
16. ROOT — The bottom of a thread groove. (4)
17. SQUARE — The type of thread used on vices. (6)
18. CREST — The most prominent part of a thread. (5)
21. FLANK — Straight part of a thread between the Root and the Crest. (5)
22. COMBINATION — Type of pliers that can hold flat or round bar and cut wire. (11)
23. MINORDIAMETER — The smallest diameter of a screw thread. (13)

Down

2. PITCH — The distance between two corresponding parts of adjacent threads. (5)
3. LEAD — The distance a screw moves along its axis for one revolution. (4)
4. TAPWRENCH — Used to hold and turn a Tap. (9)
5. MAJORDIAMETER — The largest diameter of a screw thread. (13)
8. SPLITDIE — Adjustable tool used to thread a bar. (8)
9. TAPPINGSIZEHOLE — Hole drilled before using a Tap. (15)
10. ISOMETRIC — The type of thread used on most machine screws. (9)
15. BUTTRESS — Type of thread used on quick release vices. (8)
17. STOCK — Tool used to hold a Split Die. (5)
19. SPANNER — Used to loosen and tighten nuts. (7)
20. WASHER — This prevents damage to a surface when tightening a nut. (6)

Fitting and Assembly II

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Fitting and Assembly II

Across

1. MECHANICAL — Type of cleaning which removes physical material. (10)
6. PASSIVE — Type of Flux that only prevents oxidation during soldering. (7)
10. LAP — The type of joint where one piece lies on top of the other. (3)
11. BUTT — Type of joint where the ends of two pieces are soldered. (4)
13. CHEMICAL — Type of cleaning which removes oxides and grease. (8)
15. BRAZING — The type of hard soldering using brass. (7)
16. OXIDATION — The word for how oxygen reacts with metals. (9)
17. COPPER — Metal from which the Bit of a Soldering Iron is made. (6)

Down

2. ADHESIVE — Another word for glue. (8)
3. SOLDERINGIRON — Tool used to apply Solder and heat the surfaces to be joined. (13)
4. BIT — Part of a Soldering Iron that is heated. (3)
5. HARDSOLDERING — Class of soldering which is sometimes referred to as Silver Soldering or Brazing. (13)
7. SOFTSOLDER — Alloy of Lead and Tin. (10)
8. FLUX — Used to remove oxides from the surface of parts before soldering or prevent oxidation during soldering. (4)
9. SPELTER — The brass used in Brazing. (7)
12. TINNING — Applying solder to the pieces before soldering. (7)
14. ACTIVE — Type of flux that removes oxides before soldering and prevents oxidation during soldering.

(6)

Forming Metals

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Forming Metals

Across

5. UNIVERSALSNIPS — Tool used for cutting straight edges and around curves in sheet metal. (14)
10. PLANISHING — Method of removing marks caused by hollowing. (10)
11. ANNEALING — Method of softening copper during hollowing. (9)
12. STRAIGHTSNIPS — Tool used for cutting straight edges in sheet metal. (13)
14. FOLDINGBARS — Tool used for bending sheet metal in the Bench Vice. (11)
18. CONCENTRIC — Many circles with the same centre. (10)
19. TONGS — Tool used to pick up hot metal. (5)

Down

1. BEADED — Type of sheet metal edge used to strengthen the sheet and provide a safe edge. (6)
2. BALLPEINHAMMER — Proper name for the normal workshop hammer. (14)
3. DRAWINGDOWN — Forge technique which reduces the cross-section of a bar and makes it longer. (11)
4. CURVEDSNIPS — Tool used for cutting around curves in sheet metal. (11)
6. PANNING — Type of Hammer used for folding down metal edges in restricted places. (7)
7. UPSETTING — Forge technique which involves making a bar thicker and shorter. (9)
8. ANVIL — Large heavy tool used to support hot metal while being forged. (5)
9. TEMPERING — Heat treatment to remove some of the hardness from a hardened piece of steel. (9)
13. HOLLOWING — Creating a bowl shape usually from copper. (9)
14. FORGE — Machine used to heat metals. (5)
15. BOXWOOD — Type of Hammer used for hitting sheet metal without damaging it. (7)
16. PUNCH — Tool used to make a hole in hot metal. (5)
17. BICK — 'Nose' part of an Anvil. (4)

General Benchwork

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General Benchwork

Across

6. HIGHCARBONSTEEL — The metal a hammer is made from. (15)
8. SCRIBER — Tool used to draw lines on Metals and Plastics. (7)
10. SET — The word for how the teeth of a hacksaw are not straight. (3)
14. BALLPEINHAMMER — Tool used to hit some other tools with. (14)
15. CONVEX — To curve outwards. (6)
16. DIVIDERS — Tool used to draw circles. (8)
17. HIGHSPEEDSTEEL — The metal hacksaw blades and drill bits are made from. (14)

Down

1. CONCAVE — To curve inwards. (7)
2. FILE — Hand tool used to wear a material down. (4)
3. PINNING — The word for when a file gets clogged up with material. (7)
4. TANG — The part of a file that goes into the handle. (4)
5. ODDLEGCALLIPERS — Tool used to draw lines parallel to an edge. (15)
7. TRYSQUARE — Tool used to draw lines perpendicular to an edge. (9)
8. SOFTJAWS — Tool used to protect work from the vice. (8)
9. CASTIRON — The metal a Vice is made from. (8)
11. RULER — Tool used to measure lengths. (5)
12. PUNCH — Tool used before drilling metals. (5)
13. BENCHVICE — Tool used to hold work at the Bench. (9)

The Lathe

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The Lathe

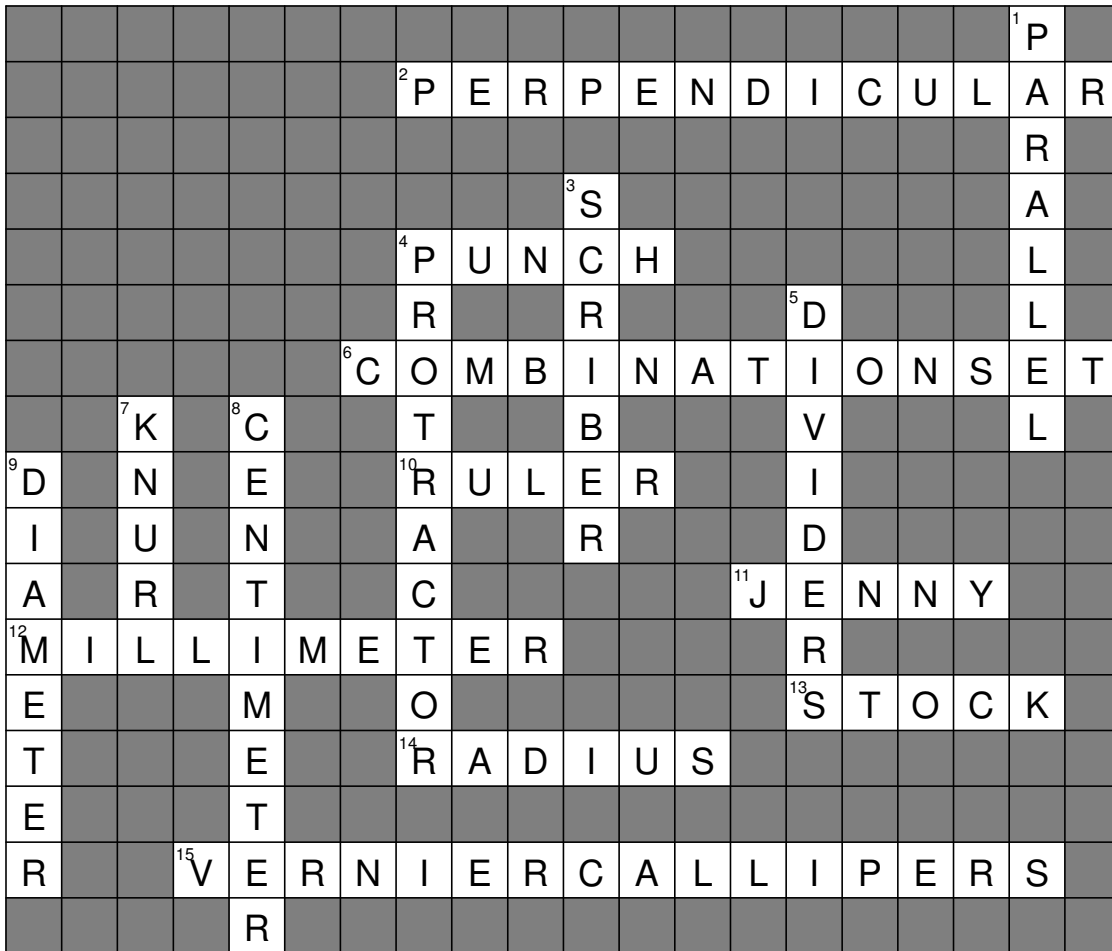
Across

1. FEEDSHAFT — Used to move the Carriage automatically. (9)
3. FACING — Lathe operation to shorten a bar or make the end of the bar smooth. (6)
6. COMPUTERAIDEDMACHINING — What does CAM stand for ? (22)
7. ABSOLUTE — Method of dimensioning from a Datum. (8)
10. RAKE — Cutting tool angle which allows the cut material to leave the cutting area. (4)
11. PARTINGOFF — Lathe operation involving the cutting off of parts. (10)
13. APRON — Front part of the Carriage that contain some controls. (5)
14. TOOLPOST — Holds the Tool Holder (8)
16. SPINDLE — The chuck is mounted on this and it is hollow. (7)
17. DIMENSIONS — Numbers which tell you the size of an object. (10)
18. RELATIVE — The method of dimensioning from the previous dimension. (8)
20. TAPER — Name for an angle cut on the end of a bar. (5)
21. LATHE — Machine used to produce round work among other things. (5)
24. HORIZONTAL — Level with the horizon. (10)
25. CROSSSLIDE — Part of the Lathe that allows the tool to move perpendicular to the work. (10)
26. CENTREDRILL — Tool always used before drilling on the Lathe. (11)
27. DIAMETER — The distance from one side of a circle to the opposite side through the centre. (8)
28. CLEARANCE — Cutting tool angle which stops the tool rubbing off the work. (9)
29. HEADSTOCK — Part of the Lathe housing the gears and controls. (9)

Down

2. SIMULATION — Running a programme on a computer before running it on a CNC Lathe. (10)
4. COMPOUNDSLIDE — Another name for the Top Slide. (13)
5. COMPUTERNUMERICALCONTROL — What does CNC stand for ? (24)
8. COMPUTERAIDEDDESIGN — What does CAD stand for ? (19)
9. TURNING — Lathe operation used to make a bar thinner. (7)
12. LEADSCREW — Used for screwcutting on the lathe. (9)
15. SLIDEWAYS — Part of the Machine Bed along which the Tailstock can move. (9)
16. SADDLE — Part of the Lathe that sits on top of the Machine Bed and supports the Cross Slide. (6)
19. TAILSTOCK — Used for drilling on the lathe and can hold a centre. (9)
22. TOPSLIDE — Can be set at different angles to cut tapers. (8)
23. KNURL — Grip pattern on some hand tools which can be created on the lathe. (5)
26. CHUCK — Part of the lathe used to hold the work. (5)

Marking Out



Marking Out

Across

2. PERPENDICULAR — Two line at 90° to eachother. (13)
4. PUNCH — Tool used before using a Drill Bit. (5)
6. COMBINATIONSET — What are a Ruler, Protractor Head, Bevel Head and Centre Square together called ? (14)
10. RULER — Used for measuring straight lines. (5)
11. JENNY — Another name for an Odd Leg Callipers. (5)
12. MILLIMETER — There are 1,000 of these in a meter. (10)
13. STOCK — The handle part of an Engineer's Try Square. (5)
14. RADIUS — The distance from the centre of a circle to the edge. (6)
15. VERNIERCALLIPERS — Tool which can be used to measure round bars or drill bits. It is very accurate. (16)

Down

1. PARALLEL — Two lines that are equi-distant from eachother and in the same direction are ? (8)
3. SCRIBER — Used for drawing lines on metals and plastics. (7)
4. PROTRACTOR — Tool used to measure angles. (10)
5. DIVIDERS — Tool used to draw circles. (8)
7. KNURL — Pattern found on some tools to provide better grip. (5)
8. CENTIMETER — There are 100 of these in a meter. (10)
9. DIAMETER — The distance from one side of a circle to the other side through the centre. (8)

Metals

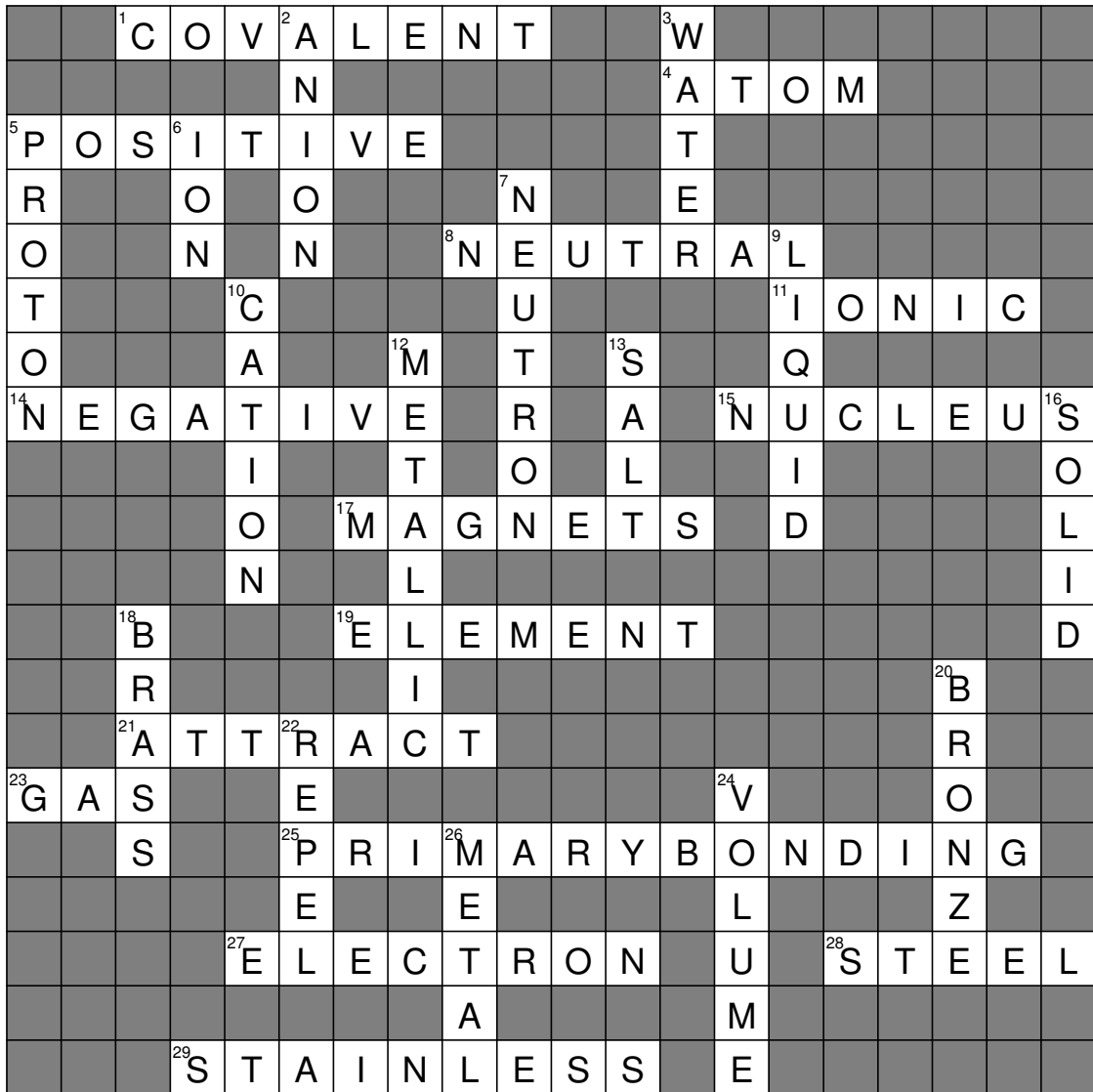
Across

2. BLASTFURNACE — Iron Ore is taken to this furnace to produce Iron. (12)
4. MILDSTEEL — Gates and Girders are made from this metal. (9)
5. CARBONELECTRODES — Used in the Electric Arc Furnace to provide the spark. (16)
6. SOFTSOLDER — A metal with a very low melting temperature made from lead and tin. (10)
9. FERROUS — The general name for metals which contain iron. (7)
11. TUYERE — Pipes around the base of the Blast Furnace used to pump air into the Hearth. (6)
13. ORE — Raw material from the earth that contains metal. (3)
15. ZINC — Metal used in the manufacture of Brass. (4)
17. COKE — Part of the Charge for the Blast Furnace and also a drink. (4)
19. CHARGE — The raw materials that are put into a furnace. (6)
20. STEEL — Iron and Carbon (5)
21. LEAD — The heaviest of the common metals and used in Flashing. (4)
22. SLAG — Waste material after the smelting of a metal. (4)
23. HIGHCARBONSTEEL — Metal used in the manufacture of hammer heads. (15)
27. NONFERROUS — The general name for metals which do not contain iron. (10)
28. LIMESTONE — A type of rock used in the Charge for the Blast Furnace. (9)
30. ALLOY — A mixture of two or more metals. (5)
31. BASIC OXYGEN FURNACE — The Furnace used to produce bulk steel. (18)

Down

1. WATERCOOLED OXYGEN LANCE — A long pipe that pumps a gas into the Basic Oxygen Furnace and is kept cool by water. (22)
3. ALUMINIUM — A light metal which aeroplanes are made from. (9)
6. STAINLESS STEEL — What is a kitchen sink made from ? (14)
7. REFRACTORY LINING — Material which keeps the heat inside the furnace and prevents the outside of the furnace from melting. (16)
8. BRONZE — Copper and Tin. (6)
10. HIGHSPEED STEEL — Drill bits are made from this metal. (14)
12. ELECTRIC ARC FURNACE — The furnace used to produce high quality Steel. (18)
14. IRON — Ferrous in Greek. (4)
16. TIN PLATE — Steel coated with a non-ferrous metal. (8)
18. CAST IRON — A Bench Vice is made from this metal. (8)
24. COPPER — A metal that is very good at conducting heat and electricity. (6)
25. BRASS — Copper and Zinc. (5)
26. TIN — A metal used in the manufacture of Bronze. (3)
29. STACK — The central part of the Blast Furnace. (5)

The Nature of Materials



The Nature of Materials

Across

1. COVALENT — The type of bonding for liquids and gases. (8)
4. ATOM — The smallest part of an Element that still holds the properties of the Element. (4)
5. POSITIVE — The electrical charge on a Proton. (8)
8. NEUTRAL — The electrical charge on a Neutron. (7)
11. IONIC — The type of bonding for crystals. (5)
14. NEGATIVE — The electrical charge on an Electron. (8)
15. NUCLEUS — The protons and neutrons together at the centre of an atom. (7)
17. MAGNETS — What do electrically charged bodies act like ? (7)
19. ELEMENT — There are 112 different ones and they make up everything in the universe. (7)
21. ATTRACT — What do unlike Electrostatic Forces do ? (7)
23. GAS — A State of Matter that could smell. (3)
25. PRIMARYBONDING — The most important way Atoms join together. (14)
27. ELECTRON — The negative part of an atom. (8)
28. STEEL — What do Iron and Carbon make ? (5)
29. STAINLESS — A special type of steel made from Iron, Carbon and Chromium. (9)

Down

2. ANION — What a negatively charged atom is called. (5)
3. WATER — The best example of Covalent Bonding. (5)
5. PROTON — The positive part of an atom. (6)
6. ION — What a charged atom is called. (3)
7. NEUTRON — The neutral part of an atom. (7)
9. LIQUID — A State of Matter that could drown you. (6)
10. CATION — What a positively charged atom is called. (6)
12. METALLIC — The type of bonding used in all metals. (8)
13. SALT — An example of Ionic Bonding you put on your dinner. (4)
16. SOLID — The State of Matter where the atoms cannot move. (5)
18. BRASS — What does Copper and Zinc make ? (5)
20. BRONZE — What does Copper and Tin make ? (6)
22. REPEL — What do like Electrostatic Forces do ? (5)
24. VOLUME — The word for the space a body takes up in the universe. (6)
26. METAL — The type of material that uses Metallic Bonding. (5)

Plastics

Across

3. PVC — Used to make window frames or shower curtains. (3)
5. NYLON — Can be used to make fishing line or tights. (5)
6. AMBER — A natural plastic that is also a colour. (5)
8. POLYSTYRENE — Plastic used to make disposable cups for hot liquids. (11)
9. MANYPARTS — What does the word 'Polymer' mean in English ? (9)
12. PLASTICISER — Used to make plastics more flexible. (11)
16. STABILISER — Prevents Ultra Violet light from damaging plastics. (10)
17. PRIMARY — The type of chemical bond between the parts of the chain. (7)
18. SECONDARY — The type of bond between chains that are beside each other. (9)
19. THERMOSET — The type of plastic which can only be heated once. (9)
20. THERMOPLASTIC — The type of plastic which can be reheated and reshaped repeatedly. (13)

Down

1. PERSPEX — Common name for Acrylic. (7)
2. POLYTHENE — Plastic bags are made from this plastic. (9)
4. CAESIN — A modified natural plastic made from cow's milk. (6)
7. KERATIN — Natural plastic which your hair is made from. (7)
10. ANTIOXIDANT — Prevents oxygen from damaging plastics. (11)
11. POLYMER — The proper name for a plastic. (7)
13. SHELLAC — The type of natural plastic that comes from the behind of the Lac Bug. (7)
14. SYNTHETIC — This word means "man made". (9)
15. ACRYLIC — Type of plastic used for making shop signs. (7)
17. PIGMENT — Used to colour plastics. (7)

Properties of Materials

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Properties of Materials

Across

1. BRITTLENESS — When a material can be easily broken or fractured by an impact. (11)
4. COMPRESSION — When two inline forces are pushing onto an object. (11)
5. CREEP — The stretching of a material due to a constant force over a period of time. (5)
7. TENSION — When two inline forces a pulling on an object. (7)
10. TOUGHNESS — The ability of a material to withstand impact. (9)
11. HARDNESS — The ability of a materials to withstand scratching and indentation. (8)
12. MALLEABILITY — The ability of a material to be stretched or shaped in all directions without breaking or fracturing. (12)
13. CONDUCTIVITY — The ability of a material to allow heat or electricity to flow through it. (12)
14. DUCTILITY — The ability of a material to be stretched out by a force into thin wire. (9)

Down

2. TORSION — Twisting forces. (7)
3. STRENGTH — The ability of a material to withstand the forces of Tension, Compression and Shear (8)
6. PLASTICITY — The ability of a material to be stretched or formed into another shape and then hold that shape, without breaking or fracturing. (10)
8. SHEAR — When two or more forces are moving in opposite directions and not inline. (5)
9. ELASTICITY — The ability of a material to return to its original shape after it has been stretched. (10)

Structures & Mechanisms

Across

1. TENSION — Two forces acting inline pulling away from the object. (7)
3. LOAD — Word for a weight or force acting on an object. (4)
5. CLOCKWISE — Turning in the same direction as the hands on a clock face. (9)
7. ROTARY — Moving in a circle in one direction. (6)
8. INDUCTION — Stroke which allows the air/fuel mixture into an engine. (9)
9. CHAIN — Acts like a belt but is found on bicycles. (5)
10. PARALLEL — Two lines equidistant from each other. (8)
11. INLETVALVE — Allows the air/fuel mixture into the engine. (10)
16. RECIPROCATING — Moving forwards and backwards in a straight line. (13)
20. WORMWHEEL — Used with a Worm gear. (9)
23. BEARING — A guide and support for a moving part of a mechanism. (7)
26. CAMSHAFT — Part of an engine on which the Cams are. (8)
30. PINION — The name for the gear that moves a Rack. (6)
31. CAM — Turns rotary motion into Reciprocating motion. (3)
33. STRUCTURE — An object which can carry a load. (9)
35. OUTLETVALVE — Allows the exhaust gasses out of the engine. (11)
38. CLUTCH — Mechanism which allows two shafts to be engaged or disengaged easily. (6)
40. CRANK — Used to apply turning force to a bar or shaft. (5)
41. SPARKPLUG — Ignites the air/fuel mixture in an engine. (9)
42. CRANKSHAFT — Part of an engine attached to all pistons. (10)

Down

2. SPROCKET — Turned by a chain. (8)
4. OSCILLATING — Moving forwards and backwards in a circle. (11)
5. CYLINDER — Guide for the piston in the engine. (8)
6. TRIANGULATION — A method of making Structure stable. (13)
12. PISTON — Slider part of an engine which goes up and down. (6)
13. MOTION — Anything which moves has this. (6)
14. RATCHET — Allows turning in one direction only. (7)
15. COMPRESSION — Two forces acting inline towards each other or the stroke in an engine which squeezes the air/fuel mixture. (11)
17. PULLEY — Used with a belt to transfer rotary motion. (6)
18. GUDGEONPIN — Engine part which holds the piston onto the Connecting Rod. (10)
19. LEVER — A rigid body free to rotate around a fixed point. (5)
21. EFFORT — The work or force needed to do something. (6)
22. TORSION — Two twisting forces acting in opposite directions. (7)
24. GEAR — Used to transfer rotary motion without slippage. (4)
25. CONNECTINGROD — Connects the Piston to the Crankshaft. (13)
27. FULCRUM — The fixed point around which a rigid body is free to rotate. (7)
28. POWER — Stroke which pushes the piston down in an engine. (5)
29. BEVELGEAR — A type of gear that can transfer rotary motion through an angle. (9)
32. IDLERGEAR — A Spur Gear used only to make the driver and the driven gears turn in the same direction. (9)
33. SHEAR — Two or more forces acting in opposite directions towards each other but not inline. (5)
34. EXHAUST — Stroke which allows the waste gasses out of the engine. (7)
36. LINKAGE — A number of levers working together. (7)
37. LINEAR — Movement in a straight line in one direction. (6)
39. RACK — A flat gear which can be found on the Lathe and Drilling Machines. (4)