

| The Planning & Building Unit,<br>Department of Education Tullamore |     | <b>PHYSICS</b><br><b>Equipment List, Specifications and Tendering Guidance – Physics laboratory (PHY)</b>                                                                                                                                                   |               |
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|                                                                    |     |  An Roinn Oideachais<br>Department of Education                                                                                                                            |               |
| Code                                                               | Qty | Description                                                                                                                                                                                                                                                 | Catalogue No. |
|                                                                    |     | <b>Section 1: Heat</b>                                                                                                                                                                                                                                      |               |
| PHY/100                                                            | 12  | Calorimeter, Joule, 4 V, 3 A. Complete with stirrer, terminals and heating coil, lagged and fitted with outer jacket, lid with hole for thermometer.                                                                                                        |               |
| PHY/101                                                            | 6   | Calorimeter, metal block, 2 holes, to accept heater and thermometer, aluminium, 1 kg, complete with lagging jackets.                                                                                                                                        |               |
| PHY/102                                                            | 6   | Immersion heater, 12 V, suitable for use with metal block calorimeter PHY/101 above.                                                                                                                                                                        |               |
| PHY/103                                                            | 6   | Steam trap, all glass                                                                                                                                                                                                                                       |               |
|                                                                    |     |                                                                                                                                                                                                                                                             |               |
|                                                                    |     | <b>Section 2: Electricity/Electronics</b>                                                                                                                                                                                                                   |               |
| PHY/200                                                            | 12  | Electrostatics kit, comprising acetyl rod, nylon rubber, silk rubber, fur rubber, simple form electrophorus and proof plane.                                                                                                                                |               |
| PHY/201                                                            | 6   | DC motors with split ring commutators                                                                                                                                                                                                                       |               |
| PHY/202                                                            | 1   | EHT supply, 0 – 6 kV with meter, current limiter and overload protection device. Two-year warranty                                                                                                                                                          |               |
| PHY/203                                                            | 12  | Electronics kit to investigate semiconductors and basic electronics, mounted components with 4 mm electrical connection sockets, with test leads and batteries, suitable for senior cycle Physics                                                           |               |
| PHY/204                                                            | 2   | Galvanometer, spot, general purpose, sensitivity (direct) in the range 22 mm/μA, 2 mm/μV, 70 mm/μC, double reflecting optical system, electrical overload protection. Two-year warranty.                                                                    |               |
| PHY/205                                                            | 2   | Induction coil, to give 50 mm spark minimum, 8 V d.c., complete with on/off switch and two 4 mm sockets. Two-year warranty.                                                                                                                                 |               |
| PHY/206                                                            | 24  | Neodymium Magnets                                                                                                                                                                                                                                           |               |
| PHY/207                                                            | 6   | Leaf electroscope: 100 x 60 x 140 mm approx. with a selection of rods and cloths to produce positive and negative charge.                                                                                                                                   |               |
| PHY/208                                                            | 3   | Magnetic field demonstrator (Magnaprobe), to show 3-dimensional magnetic field, comprising of perspex box with 10 mm diameter tunnel extending through the centre.                                                                                          |               |
| PHY/209                                                            | 3   | Transformer kit, demountable. The kit should be capable of demonstrating the structure and principle of operation of transformers and some of their uses. Tapped coils with a range of coils of different numbers of turns, for example 50, 100, 200 turns. |               |

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| PHY/210 | 1  | Van de Graaff generator. Collecting sphere minimum diameter 270 mm approximately. Driven by electric motor 230 V, 50 Hz. Output up to 400 00 V                                                                                                                                                                                             |  |
| PHY/211 | 1  | Accessories for Van de Graaff generator, set, ending in 4 mm plug, to include: Insulating rod with suspended conducting sphere, Needle point discharger, Rotary discharge whirl, Head of hair, Neon bulb on h, older, Insulated cylinder with conductive vibrative particles.                                                              |  |
| PHY/212 | 1  | Conductors, set of 3, on insulated pillars on metal base comprising of sphere 50 mm diameter, cylinder 125 x 50 mm, cone 100 x 50 height x base diameter, for use with Van de Graaff generator, PHY/210 above.                                                                                                                             |  |
| PHY/213 | 1  | Proof plane, 13 mm diameter approximately, on insulating handle, for use with PHY/210 above.                                                                                                                                                                                                                                               |  |
| PHY/214 | 6  | Capacitor 10 000 $\mu$ F. Mounted and fitted with 4 mm sockets.                                                                                                                                                                                                                                                                            |  |
| PHY/215 | 1  | Parallel plate capacitor with moveable plates to show effect of area, distance between plates and material between plates on capacitance, supplied with a multimeter capable of reading in picofarads.                                                                                                                                     |  |
| PHY/216 | 1  | Metre bridge, 4 gap, mounted on rigid PVC, with Constantan wire c.0.56 mm diameter, electrical connections via 4 mm sockets, scale graduated 0 – 100 cm x 1 mm and 100 to 0 cm x 1 mm. Complete with knife edge jockey.                                                                                                                    |  |
| PHY/217 | 2  | Resistors, for use with PHY/216 above. Two of each: 1 $\Omega$ , 2 $\Omega$ , 5 $\Omega$ , 10 $\Omega$ , 100 $\Omega$                                                                                                                                                                                                                      |  |
| PHY/218 | 6  | Joulemeter/Wattmeter, low voltage d.c. or a.c. of any waveform, up to 10 kHz. Joulemeter, up to 8-digit display, max. load 20 V d.c./14 V a.c., maximum load current, 10 A d.c./7 A a.c., frequency range d.c. to 10 kHz. Wattmeter, moving coil meter display, maximum power 100 W, frequency range d.c. up to 10 kHz. Two-year warranty. |  |
| PHY/219 | 1  | Oscilloscope, dual trace, 20 MHz bandwidth, 8 x 10 cm screen with scale illumination, adapters to take 4 mm plugs Two-year warranty.                                                                                                                                                                                                       |  |
| PHY/220 | 1  | Oscilloscope (cathode ray) simulation/ demonstration                                                                                                                                                                                                                                                                                       |  |
| PHY/221 | 1  | Robust quality tube, cathode ray, demonstration type, in storage case, Teltron or equivalent, to include integrator for attachment to oscilloscope to enable display of characteristic curves                                                                                                                                              |  |
| PHY/222 | 1  | Universal stand, to suit PHY/221 above.                                                                                                                                                                                                                                                                                                    |  |
| PHY/223 | 1  | Universal stand, to suit PHY/221 above.                                                                                                                                                                                                                                                                                                    |  |
| PHY/224 | 1  | Signal generator and amplifier, frequency range 0.1 Hz – 100 kHz sine and square wave output. High and low impedance output and amplifier input, power gain 56 dB.                                                                                                                                                                         |  |
|         |    | <b>Section 3: Mechanics</b>                                                                                                                                                                                                                                                                                                                |  |
| PHY/300 | 6  | Force boards, wooden, c.610 x 485 mm, with bench mounting brackets using G-clamps                                                                                                                                                                                                                                                          |  |
| PHY/301 | 12 | G-clamp, 100 mm jaw, to suit PHY/300 above                                                                                                                                                                                                                                                                                                 |  |
| PHY/302 | 1  | Roll of cord for use with heavy loads suitable for PHY/300 above.                                                                                                                                                                                                                                                                          |  |
| PHY/303 | 4  | Centre rings for use with cord, PHY/302 above, pack 10                                                                                                                                                                                                                                                                                     |  |

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| PHY/304 | 12 | Pulleys, 50 mm diameter, fitted with clamps for mounting on force boards, PHY/300 above.                                                                                                                                              |  |
| PHY/305 | 6  | Dynamics system, kit, comprising track, trolley (2), pulley, mass pieces, ticker timer, cotton reels, ticker tape reels, carbon discs, housed in suitable wooden/plastic/metal box. Two year warranty.                                |  |
| PHY/306 | 1  | Linear air-track, catapult arm with slots for elastic bands at each end of track. Fine adjustment of level of track possible, 3 vehicles, buffer attachment. Supplied complete with instructions for use. Two year warranty.          |  |
| PHY/307 | 6  | Dual/single timer with segmented millisecond timer display(s), stop/start on single timer mode, dual stop/start, gated, suitable for use with PHY/306 above and PHY/309 below. Supplied complete with light gates. Two-year warranty. |  |
| PHY/308 | 1  | Blower, air track, adjustable speed, complete with hose for connecting to air track above, mains 230 V, for use with PHY/306 above. Two-year warranty.                                                                                |  |
| PHY/309 | 6  | "g" by free-fall apparatus consisting of release mechanism suitable for use with electronic timing device, PHY/307 above. Two-year warranty.                                                                                          |  |
|         |    | <b>Section 4: Light</b>                                                                                                                                                                                                               |  |
| PHY/400 | 1  | Fibre optic probe consisting of a bundle of non-coherent optic fibres, up to 300 mm long. Ends secured. Complete with lamp (6 V) attachment.                                                                                          |  |
| PHY/401 | 1  | Filters, infrared and ultraviolet, set.                                                                                                                                                                                               |  |
| PHY/402 | 12 | Glass block, optical quality, rectangular for refraction experiments. Approximate size 100 x 62 x 18 mm. Polished on all sides.                                                                                                       |  |
| PHY/403 | 12 | Glass block, optical quality, semi-circular for refraction experiments. Approximate size 90 x 18 mm (diameter x thickness). Polished on all sides...                                                                                  |  |
| PHY/404 | 12 | Density Sets. The set contains one cube each of aluminum, steel, brass, copper, acrylic, nylon, poplar, oak, willow and polyethylene.                                                                                                 |  |
| PHY/405 | 12 | Laser pens, red                                                                                                                                                                                                                       |  |
| PHY/406 | 24 | Set of diffraction gratings – with different line spacing – 300 lines per mm or 600 lines per mm. All three on the same frame.                                                                                                        |  |
| PHY/407 | 6  | Set of accessories for laser (PHY/406) to include tapered slit, metal gauge 300 mesh, two polaroid filters, grating, hologram, set of slides with 1, 2, 3, 4, 5, 6 slits having slit separation of approx. 0.25 mm.                   |  |
| PHY/407 | 12 | Lens, biconvex, optically worked glass with ground edge, 50 mm diameter. Focal length 150 mm.                                                                                                                                         |  |
| PHY/408 | 12 | Lens, biconcave, optically worked glass with ground edge, 50 mm diameter. Focal length 150 mm.                                                                                                                                        |  |
| PHY/409 | 12 | Lens holder, wooden, to suit PHY/407 and PHY/408 above                                                                                                                                                                                |  |
| PHY/410 | 1  | Light source, compact, with tungsten halide 12 V, 100 W lamp for use on 12 V a.c. or d.c. supply.                                                                                                                                     |  |
| PHY/411 | 12 | Mirror, concave, optically worked, back silvered, protective coating, 50 mm diameter. Focal length 150 mm.                                                                                                                            |  |
| PHY/412 | 12 | Mirror, convex, optically worked, back silvered, protective coating, 50 mm diameter. Focal length 150 mm.                                                                                                                             |  |

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| PHY/413 | 3  | Optical set, complete with light box operating from a 12 V a.c./d.c., 3 A power supply. The set comprises 3 different prisms, semi-circular and rectangular slabs, two bi-convex and one bi-concave lenses, plane, half round and parabolic mirrors, slits, bulb, colour filters and cards.                                                                                                                                                                                                                                              |  |
| PHY/414 | 2  | Optical bench, working length 1 m – 1.5 m, graduated, with at least four saddles (at least two capable of fine traverse movement), levelling screws, lamp house and light source 12 V/24 W.                                                                                                                                                                                                                                                                                                                                              |  |
| PHY/415 | 2  | Set of accessories for optical bench (PHY/414) to include: 2 lens holders; 1 mirror holder; 1 mounted needle; 2 optical pins; 1 pinhole screen; 1 cross wire; 1 prism table; 1 diaphragm with adjustable iris; 1 object screen; 1 receiving screen.                                                                                                                                                                                                                                                                                      |  |
| PHY/416 | 6  | Photocell, selenium, mounted with connection for 4 mm plugs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| PHY/417 | 6  | Prism, glass, 60/60/60°, 50 x 50 mm sides                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| PHY/418 | 6  | Prism, glass, 90/60/30°, 40 x 40 mm sides                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| PHY/419 | 12 | Prism, glass, 90/45/45°, 50 x 50 mm sides                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| PHY/420 | 2  | Spectrometer, suitable for student use, graduated in 30-minute increments, two Verniers, 180 degrees apart, Collimeter, with c.178 mm rack and pinion focusing aperture, 25 mm diameter, variable slit, levelling screws. Prism table, diameter c.86 mm (height adjustable and lockable). Telescope, with c.178 mm rack and pinion focusing aperture, diameter 25 mm, Ramsden eyepiece. Flint prism, prism clamp, diffraction grating holder, cross line graticule, Vernier magnifier. Complete unit in packing case. Two-year warranty. |  |
| PHY/421 | 2  | Spectral lamp, sodium, suitable for use with PHY/420 above. Also spectral lamp mercury. Two-year warranty.                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| PHY/422 | 2  | Spectral transformer and lamp house, suitable for use with PHY/421 above Two-year warranty.                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| PHY/423 | 1  | Solar energy kit, comprising solar cells, motor, fan, on stand.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| PHY/424 | 1  | Ultraviolet lamp, hand-held, suitable for school use, dual wavelength, 254/366 nm, tubes 8 W, complete with stand                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| PHY/425 | 24 | UV protective spectacles, for use with PHY/424 above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
|         |    | <b>Section 5: Atomic Physics/ Radiochemistry</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| PHY/501 | 1  | Geiger-Muller tube, suitable for classroom use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| PHY/502 | 1  | Holder and stand, suitable for use with Geiger-Muller tube PHY/501 above                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| PHY/503 | 1  | Scaler/ratemeter/timer for Geiger-Muller tube PHY/501 above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| PHY/504 | 1  | Radioactive source kit, set of 3 source types- e.g. alpha (Po-210), beta (Sr-90) and gamma (Co-60) - embedded in colour coded epoxy material, safe for use in classroom. No source to exceed 1.2 $\mu$ Ci. To include holder for sources and a range of items needed for demonstration of the differing absorption/ penetration powers and the effect of magnetic field on the three types of radiation. Suitable for use with equipment PHY/500-502 above.                                                                              |  |
|         |    | <b>Section 6: Measurement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| PHY/601 | 12 | Micrometer screw gauge, 0.25 mm x 0.01 mm. Also, digital callipers of resolution 0.1mm                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |

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| PHY/602 | 1  | Hydrometer, specific gravity, universal application, calibrated, 0.700 – 2.000, up to c.340 mm long approximately, subdivisions 0.010                                                     |  |
| PHY/603 | 12 | Vernier callipers, 0-120 mm x 0.1 mm with roller wheel adjustment and locking screw                                                                                                       |  |
| PHY/604 | 12 | Thermometer, digital, range –50 °C to 200 °C (approximately), handheld.                                                                                                                   |  |
| PHY/605 | 3  | Thermometer, platinum resistance, enclosed in glass tube, platinum wire non-inductively wound on mica frame, leads connected to top of thermometer (one unit)                             |  |
| PHY/606 | 12 | Thermocouple, copper-constantan, single with 0.5 m leads for connection to galvanometer.                                                                                                  |  |
| PHY/607 | 12 | Thermistor, mounted on 1 m leads terminating in 2 x 4 mm plugs, suitable for use in liquids.                                                                                              |  |
| PHY/608 | 12 | Thermometer, ungraduated, non-roll, red spirit-filled, range –10 to 110 °C                                                                                                                |  |
|         |    | <b>Section 7: Energy Conversion / Waves / Sound</b>                                                                                                                                       |  |
| PHY/700 | 1  | Ripple tank with power supply unit, illumination, motor stroboscope and accessories. Two-year warranty.                                                                                   |  |
| PHY/701 | 6  | Sonometer. Movable bridges, two wire pattern. Wire fitted to spring balance and wrest pin with key to adjust tension.                                                                     |  |
| PHY/702 | 2  | Slinky Spring                                                                                                                                                                             |  |
| PHY/703 | 2  | Sound level meter, digital. Low scale/ high scale, complete with microphone.                                                                                                              |  |
| PHY/704 | 3  | Tuning forks, set, mounted on resonance boxes. Frequency 426.6 Hz. One fitted with adjustable load mass.                                                                                  |  |
| PHY/705 | 4  | Resonance tubes, comprising two glass tubes, diameter 32 mm (closed at one end) and 25 mm respectively. Length 305 mm. Smaller tube slides within the inner tube on foam plastic collars. |  |
| PHY/706 | 1  | Microphone, frequency response 100 – 10 000 Hz, handheld with BNC connection for use with oscilloscope, PHY/220 above.                                                                    |  |
|         |    | <b>Section 8: Investigation Kits</b>                                                                                                                                                      |  |
| PHY/800 | 12 | Solar Power Investigation Kit                                                                                                                                                             |  |
| PHY/801 | 12 | Educational Experimentation Kit Item - kit contains all necessary components and a breadboard to build a variety of circuits in minutes.                                                  |  |
| PHY/802 | 12 | Circuit investigation Kit with breadboard                                                                                                                                                 |  |
| PHY/803 | 12 | Vector board sets. Each vector board set includes two vector boards, springs, spring holders and paper.                                                                                   |  |
| PHY/804 | 12 | Conservation of Elastic Potential Energy                                                                                                                                                  |  |
| PHY/805 | 12 | Build a Simple AC Generator                                                                                                                                                               |  |
| PHY/806 | 12 | Electromagnetic Induction Investigation Kit                                                                                                                                               |  |

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| PHY/807        | 1           | <p>The atomic model and radioactivity investigation kit with four investigation stations:</p> <ul style="list-style-type: none"> <li>• Half-Life—Understand the concepts of half-life and the probabilistic nature of radioactivity through the use of multifaceted dice simulations.</li> <li>• Hydrogen Spectrum—Learn how absorption and emission spectra can be extrapolated to understand the composition of distant celestial bodies.</li> <li>• Radioactive Decay Cards—Arrange element and beta and alpha particle cards to investigate the natural decay of uranium-238.</li> <li>• Quantum Leap—Discover how electron location in orbitals corresponds to probability. The following should be included in the kit:<br/>Carbonless target sheet, eye-level, 12<br/>Carbonless target sheet, waist-level, 12<br/>Die, 4-sided polyhedral, 60<br/>Die, 7/16", 60<br/>Marbles, glass, 16 mm, 15<br/>Radioactive decay cards, 6<br/>Spectroscope, 6</li> </ul> |  |
|                |             | <b>Section 9: Miscellaneous</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| PHY/900        | 5           | <p>Charts: Set of Physics Charts (SI units) with portable tripod. Size approximately 100 x 75 mm coloured, Welch or equivalent, to illustrate the following:</p> <ul style="list-style-type: none"> <li>• Electromagnetic spectrum;</li> <li>• Optical instruments;</li> <li>• Semi-conductor devices;</li> <li>• Ionizing radiation detectors;</li> <li>• Motor and d.c. generator (dynamo);</li> <li>• Standard/Model of Matter – Quarks/Bosons etc.</li> </ul> <p>Or selection of 5 charts to be decided by school.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|                |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|                |             | <b>Summary: Equipment for Physics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| <b>Section</b> | <b>Code</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Section 1      | PHY/100-103 | Heat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Section 2      | PHY/200-222 | Electricity/Electronics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| Section 3      | PHY/300-309 | Mechanics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| Section 4      | PHY/400-425 | Light                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Section 5      | PHY/500-    | Atomic Physics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |

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| Section 6 | PHY/600-608 | Measurement                      |  |
| Section 7 | PHY/700-706 | Energy Conversion/ Waves / Sound |  |
| Section 8 | PHY/800-807 | Investigation Kits               |  |
| Section 9 | PHY/900     | Miscellaneous                    |  |

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|  |  | <b>Standards, Specifications and Conditions</b>                                                                                                                                                                |  |
|  |  | <b>All Equipment shall be Durable and Safe for School Use.</b>                                                                                                                                                 |  |
|  |  | <b>Equipment wholly or partly funded from public funds is subject to Inspection by Officers from the Department of Education.</b>                                                                              |  |
|  |  | It is essential that tenders for equipment for School Use shall:                                                                                                                                               |  |
|  |  | i) Comply fully with the specifications and be durable and safe for School Use.                                                                                                                                |  |
|  |  | ii) Comply fully with the standards as detailed and shall comply fully with European (EN) standards, both established and developing.                                                                          |  |
|  |  | iii) Comply with European electrical standards and CE marking as appropriate.                                                                                                                                  |  |
|  |  | iv) Fully comply with requirements in the Request for Tenders (RFT) document.                                                                                                                                  |  |
|  |  | v) Be accompanied by documentation of sufficient detail for full evaluation.                                                                                                                                   |  |
|  |  | vi) Include the completed and signed certificate of compliance.                                                                                                                                                |  |
|  |  | <u>Award of a contract is conditional on the production of a current tax clearance certificate.</u> Failure to comply with the above may result in the tender being deemed null and void.                      |  |
|  |  |                                                                                                                                                                                                                |  |
|  |  | <b>Certificate of Compliance with Standards, Specifications &amp; Conditions:</b>                                                                                                                              |  |
|  |  | I/We certify that the equipment tendered complies in all respects with the Standards, Specifications and other requirements/conditions specified in this tender document and in the Request for Tenders (RFT). |  |

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| - |  | I/We hold a current tax clearance certificate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|   |  | Company:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
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|   |  | Signed: _ Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
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|   |  | Position:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
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|   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|   |  | <b>Purposes of the list:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|   |  | The equipment and quantity listed herein is primarily intended for use by the Department of Education for the purposes of funding new and upgraded laboratories and associated preparatory rooms in a school.                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|   |  | It can also be used by school leaders, teachers, and subject departments when managing their laboratory, as a reference to an indicative list of resources for the teaching and learning in the Leaving Certificate, Leaving Certificate Applied, Transition Year and Junior Cycle programmes, including Level 1 and Level 2 Learning Programmes. In line with the nature of curriculum design, including national specifications and locally designed curricula such as short courses, Transition Year modules and extra-curricular or co-curricular science activities, the list is neither prescriptive nor exhaustive for any one or all curricula. |  |
|   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|   |  | School leaders and teachers have flexibility to consider how best to develop and manage the stock within the laboratories in accordance with their own school's context. These include the range of subjects, modules, short courses, and specialisms that might be introduced or are currently taught in the school, the demand placed on the laboratory and the layout of the laboratories and preparatory rooms throughout the school campus.                                                                                                                                                                                                        |  |