Database of OpenSTEM Labs activities

Guidance on using the template:
1. Enter each new activity in a blank row at the bottom of the spreadsheet
2. Use the drop down menus to select the appropriate category for each answer.
3. Each learning outcome/ objective has a detailed description (can be seen by clicking on the small red triangle in the corner of the cell)
4. Use the filters at the top of each column to display activities by type

						Experiment Characteristics																																
										Experiment Design			Experiment support			Experiment access			Accessibility requirements				By completing this OpenSTEM Labs activity students will be able to ...																
Activity Name	Topic 1	Topic 2	Equipment Name	Module Reference	Weblink	Experiment Type	Remote Interaction Type	Online Interaction Type	Experimenter	Content (how file like)	Learning structure	Pre-lab preparation	Pre-requisites	Access type	In-lab support	Visual	Motor	Auditory	Social	Develop subject knowledge and understandings	Apply appropriate instrumentation to make measurements	Use theoretical models to predict behaviour	Devise an experimental approach	Collect Data	Analyse and interpret data	Identify unsuccessful outcomes and learn from errors	Demonstrate creativity in problem solving	Demonstrate competence in executing experiments	Identify and deal with health and safety issues	Communicate effectively about education work	Work effectively in teams	Behave with high ethical standards	Use human senses to gather information	Design, build, or assemble a product	Notes
Using the digital microscope to count leukocytes in blood samples.	Health	Biology	Virtual Microscope	SDK1320	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sdk1320_virtual_microscope	Virtual laboratory	N/A	Stored dataset	Group - informal	Limited content	Directed	Independent	Module pre-requisites	Open	Independent	Required	Desirable	Not required	Desirable	Yes	Yes	No	To some extent	Yes	Yes	No	To some extent	To some extent	No	To some extent	To some extent	No	Yes	No	
Investigating sensitive receptor slides in breast tissue	Health	Biology	Virtual Microscope	SDK1320	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sdk1320_virtual_microscope	Virtual laboratory	N/A	Stored dataset	Individual	Limited content	Directed	Independent	Module pre-requisites	Open	Independent	Required	Desirable	Not required	Not required	Yes	Yes	No	Yes	Yes	Yes	To some extent	Yes	To some extent	No	Yes	No	No	Yes	No	
Using spirometry to assess lung function	Health	Biology	Spirometer	SDK1010	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sdk1010_the_human_respiratory_system	Virtual laboratory	N/A	Stored dataset	Individual	Limited content	Directed	Preparatory planning tasks	None	Open	Independent	Desirable	Desirable	Not required	Not required	Yes	No	No	No	To some extent	Yes	No	No	No	No	Yes	No	No	No	No	
An investigation into the aftereffects of ethanol on attention	Health	Biology	Rapid visual processing (RVP)	SDK1010	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sdk1010_the_human_respiratory_system	Virtual laboratory	N/A	Algorithm generated	Group - informal	Limited content	Directed	Equipment learning	Module pre-requisites	Open	Independent	Required	Required	Not required	Desirable	Yes	Yes	No	To some extent	Yes	Yes	Yes	To some extent	To some extent	Yes	To some extent	To some extent	Yes	Yes	No	
Investigation 1: Studying sustained attention in humans	Health		Rapid visual processing (RVP)	SDL1003	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sdl1003_sustained_attention	Virtual laboratory	N/A	Algorithm generated	Group - formal	Limited content	Directed	Preparatory planning tasks	Module pre-requisites	Open	Tutor guided	Required	Required	Not required	Required	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	To some extent	Yes	Yes	Yes	Yes	Yes	No	
Counting ovules	Health	Biology	Mate counting	SK299	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sk299_counting_ovules	Virtual laboratory	N/A	Collected data	Group - formal	Limited content	Directed	N/A	None	Open	Independent	Required	Not required	Desirable	Not required	Yes	No	No	No	Yes	Yes	No	No	No	No	To some extent	To some extent	No	Yes	No	
The conditions clearance test	Health	Biology	The conditions clearance test	SK299	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sk299_the_conditions_clearance_test	Virtual laboratory	N/A	Stored dataset	Individual	Limited content	Directed	Preparatory planning tasks	None	Open	Independent	Required	Desirable	Not required	Not required	Yes	No	No	No	Yes	Yes	No	No	No	No	To some extent	No	No	No	No	
Investigating stress in a thick-walled pressure vessel	Engineering		Pressure vessel	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_pressure_vessel	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	N/A	None	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	Yes	No	No	Yes	Yes	No	No	Yes	To some extent	Yes	No	No	Yes	No	
Explore changes in electrical resistance of a material over a range of temperatures	Engineering		Resistivity	T271	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t271_resistivity	Remote laboratory	Observation	N/A	Other	Realtime video	Directed	N/A	None	Open	Assisted - asynchronous					Yes	To some extent	No	No	To some extent	Yes	No	No	No	No	Yes	No	No	Yes	No	
Hammond shelf mechanism	Earth	Biology	Hammond Shelfs	S112	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#s112_shelf_1&s	Virtual laboratory	N/A	Stored dataset	Individual	3D/ immersive	Directed	N/A	None	Open	Independent					Yes	Yes	No	No	Yes	Yes	No	No	No	No	No	No	No	Yes	No	Measures and confirms that the material behaves as expected
Controlling a driven pendulum	Electronics	Engineering	Pendulum	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_pendulum	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	Exploratory (in the lab)	None	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	To some extent	Yes	To some extent	Yes	Yes	To some extent	To some extent	Yes	No	No	No	No	Yes	No	Measures and confirms that by exercises of evaluate beam / d
Testing a real photodiode	Electronics	Engineering	Light and stain experiments	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_sensors	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	Exploratory (in the lab)	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	To some extent	To some extent	To some extent	Yes	Yes	To some extent	To some extent	Yes	No	No	No	No	Yes	No	
Strain Gauge experiment	Electronics	Engineering	Light and stain experiments	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_sensors	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	Exploratory (in the lab)	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	To some extent	Yes	Yes	Yes	Yes	No	To some extent	To some extent	No	No	No	No	Yes	No	
Sampling and fourier analysis	Electronics	Engineering	Fourier (T212)	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_fourier	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	N/A	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	To some extent	Yes	To some extent	Yes	Yes	No	To some extent	To some extent	No	No	No	No	Yes	No	
A logic gate exercise	Electronics	Engineering	Digital Board Experiments	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_digital	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	N/A	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	No	No	No	No	To some extent	To some extent	No	Yes	No	No	No	No	To some extent	To some extent	
Building a decoder circuit	Electronics	Engineering	Digital Board Experiments	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_digital	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	Preparatory planning tasks	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	No	No	To some extent	No	To some extent	To some extent	To some extent	Yes	No	No	No	No	To some extent	Yes	
Designing a combinational circuit	Electronics	Engineering	Digital Board Experiments	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_digital	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	Preparatory planning tasks	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	To some extent	To some extent	No	No	No	To some extent	To some extent	Yes	No	No	No	No	Yes	Yes	
Implementing and testing a sequential circuit	Electronics	Engineering	Digital Board Experiments	T212	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#t212_digital	Remote laboratory	Fixed	N/A	Individual	Realtime video	Directed	Preparatory planning tasks	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Required	Desirable	Not required	Yes	To some extent	To some extent	No	No	No	To some extent	No	Yes	No	No	No	No	Yes	Yes	
PIRATE and COSMIC	Astronomy	Physics	Remote telescope	SXP1208	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sxp1208_remote_telescope	Remote laboratory	Adaptive	N/A	Group - informal	Realtime video	Directed	Preparatory planning tasks	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Not required	Not required	Desirable	Yes	Yes	No	To some extent	Yes	Yes	To some extent	No	Yes	No	Yes	Yes	No	No	No	
Complete Scattering	Physics	Astronomy	X-ray scattering	SXP1208	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sxp1208_experiment_one_image	Remote laboratory	Fixed	N/A	Group - informal	Realtime video	Directed	Preparatory planning tasks	Module pre-requisites	Bookable	Independent	Required	Desirable	Not required	Desirable	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	To some extent	Yes	To some extent	No	No	No	
Gas Cell	Astronomy	Physics	Gas cell and Iron	SXP1208	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sxp1208_gas_cell	Remote laboratory	Adaptive	N/A	Individual	Realtime video	Directed	Exploratory (in the lab)	Module pre-requisites	Bookable	Independent	Desirable	Desirable	Not required	Desirable	Yes	Yes	Yes	To some extent	Yes	Yes	Yes	To some extent	Yes	Yes	Yes	No	No	No	No	
JANUS	Astronomy	Physics	Remote telescope	SXP1208	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sxp1208_remote_telescope	Remote laboratory	Adaptive	N/A	Group - informal	Realtime video	Directed	Preparatory planning tasks	Module pre-requisites	Bookable	Assisted - asynchronous	Required	Desirable	Not required	Desirable	Yes	Yes	Yes	To some extent	Yes	Yes	To some extent	No	Yes	No	Yes	Yes	No	No	No	
Mass to Charge	Physics	Astronomy	Free-beam tube	SXP1208	https://learn3.open.ac.uk/course/ty.php/course/view.php?id=1&section=1#sxp1208_free_beam_tube_experiment	Virtual laboratory	N/A	Immersive	Individual	3D/ immersive	Open	Exploratory (in the lab)	Module pre-requisites	Open	Independent	Required	Required	Not required	Not required	Yes	No	Yes	To some extent	Yes	To some extent	Yes	No	No	No	No	No	No	No	No	

Categories for dropdown menus

Experiment type	Remote interaction ty	Online interaction type	Experimenter	Context	Learning structure	pre-lab support	Access	Pre-requisites	In-lab support	Topics
Remote laboratory	Observation	Immersive	Individual	Realtime video	Directed	Equipment training	Open	None	Tutor guided	Biology
Hybrid online laboratory	Fixed	Stored dataset	Group - formal	3D/ Immersive	Open	Preparatory planning tasks	Timed	Module pre-requisites	Assisted - synchr	Health
Virtual laboratory	Adaptive	Collected data	Group - informal	Limited context		Exploratory (in the lab)	Bookable		Assisted - asynch	Physics
	N/A	Algorithm generated	Tutor			Independent			Independent	Engineering
		N/A	Other			N/A				Electronics
										Earth
										Astronomy
		Accessibility		**Learning objectives**						
		Required		Yes						
		Desirable		No						
		Not required		To some extent						