LabCamera / *Seven Modules for STEM*

LabCamera
Science exploration application

LabCamera is a science exploration application which enables students to carry out scientific experiments **using their laptops' or tablets' built-in camera or any external webcam.**

It's a cost-effective way to enhance STEM curriculum and promote scientific inquiry. Develops skills for investigation, problem-solving, critical thinking and deductive reasoning.

LabCamera has **7 amazing modules** to cover all Science subjects.

Time Lapse   **Kinematics**   **Motion Cam**   **Microscope**   **Universal Logger**   **Pathfinder**   **Graph Challenge**

Time Lapse

Time Lapse helps students observe and better understand the slow processes in nature, such as the formation and migration of clouds, ice melting, the growth of plants, etc. The software makes still shots in configurable intervals and stitches these images into a coherent stream of video.

Features

- Set the time between the frames from 0.2 seconds to 24 hours
- Mirror View
- Video playback

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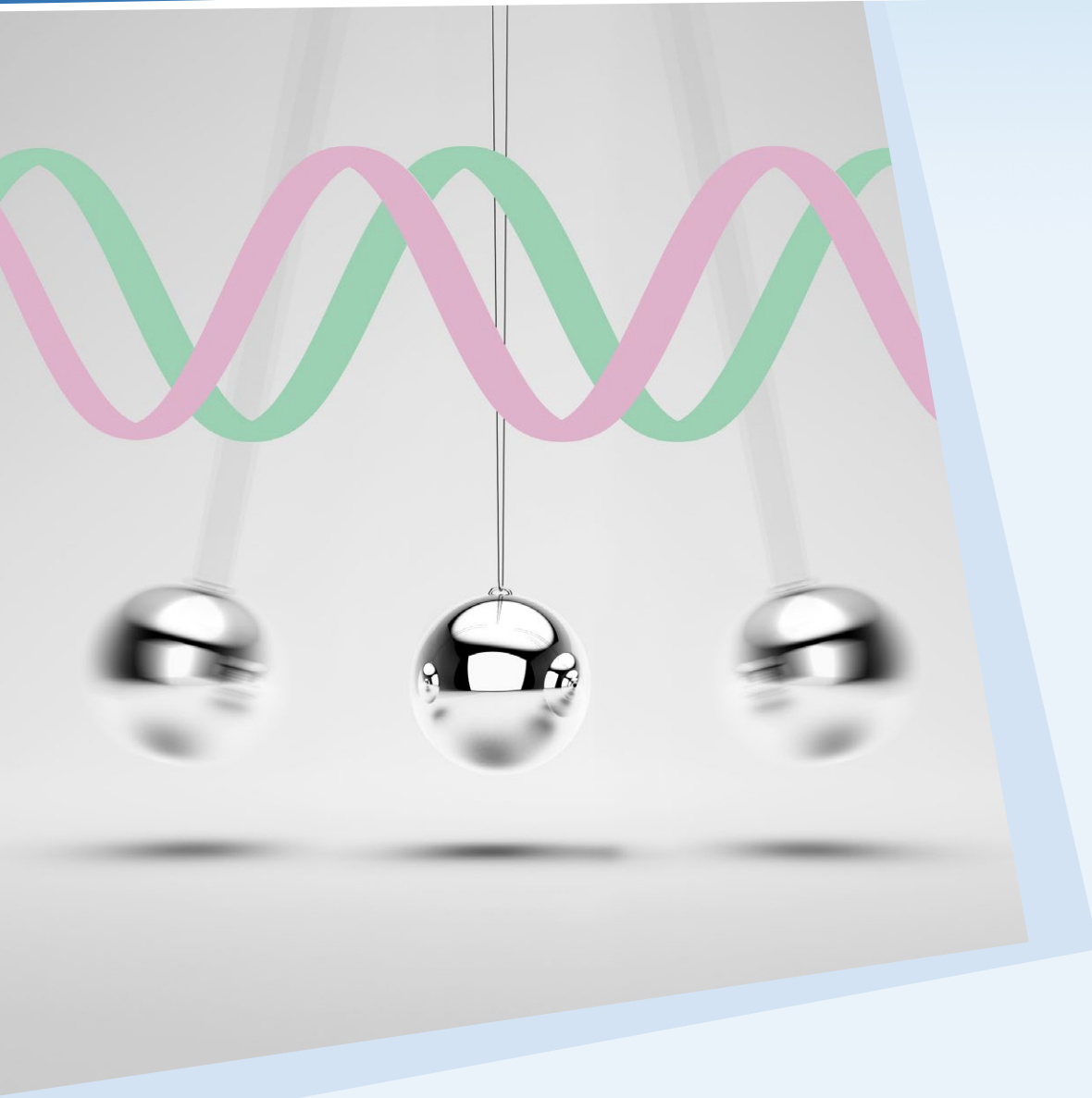
Kinematics

Track and graph horizontal and vertical movement of objects by tapping a coloured object in your camera viewport.

Kinematics shows a real time horizontal or vertical graph of displacement, velocity and acceleration of the tracked objects. Kinematics can track up to 3 objects at the same time allowing students to conduct more complex experiments involving collisions and same-time comparison of movement characteristics.

Features

- *Tracks up to 3 coloured objects in real-time*
- *Plots displacement and velocity diagrams in real-time*
- *Augmented diagram visualisation*
- *Tracks movement along x, y or both axes*
- *Exports s(t), v(t) and a(t) data to .csv for further use*
- *Enables loading pre-recorded videos for movement analysis*
- *Background elimination*
- *Trail visualisation*

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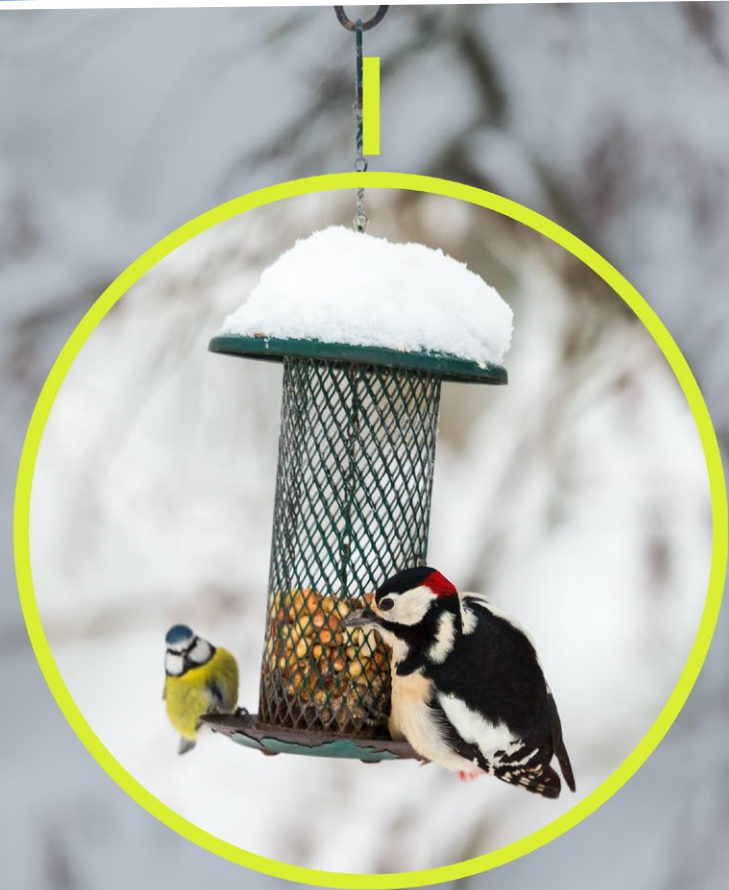
Motion Cam

Capture unique and intimate moments of animals and phenomenas around you.

The Motion Cam function makes a recording when it detects movement in front of the camera, allowing you to capture rare and intimate situations in nature. It works just like motion-sensor cameras. All you need to do is set the area within which any motion will trigger recording , tune trigger sensitivity, and hit the record button.

Features

- *Set the sensitivity from Very Low to Very High.*
- *Mirror View*

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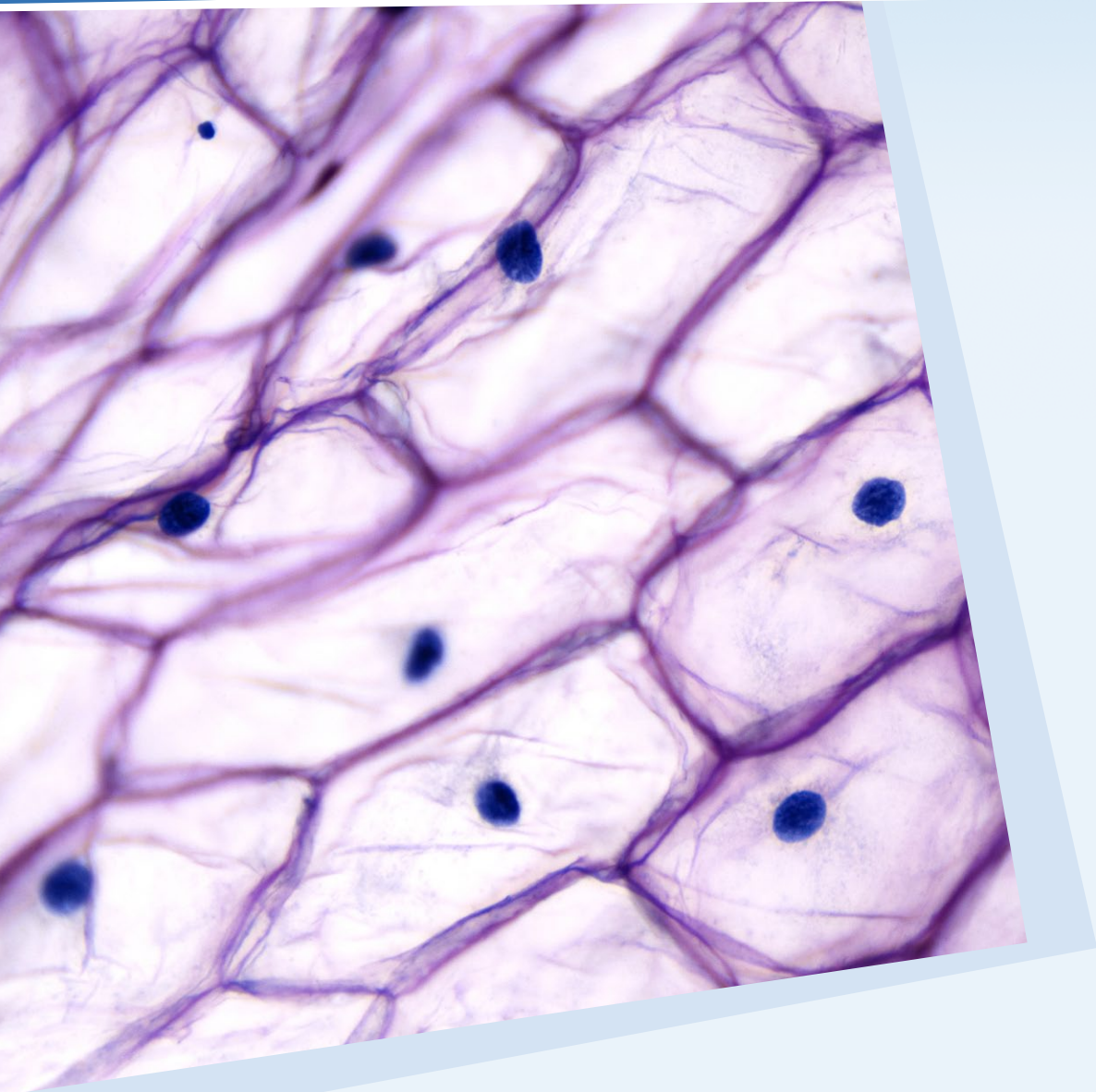
Microscope

Built as an universal measuring tool, the Microscope module enables students and teachers to measure sizes, distances, angles and areas.

Having the option to load pictures or use your webcam to snap a picture of the desired object or scene, Microscope can be used to measure objects such as buildings, trees, bridges or much smaller objects such as sugar crystals, snowflakes or onion skin cells.

Microscope will render a customizable measurement sheet with measurement data and image for sharing and presentation. A great tool to teach proportions, sizes, measurement methodology and carry out environmental projects using screenshots from online map applications, such as Google maps.

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Universal Logger

Log any measurement instrument's data that has a digital, radial-dial, or fluid-based display by „connecting" It to your computer through it's built in camera.

Schools can save significant amount of money* on lab equipment by utilizing existing liquid-in-glass, digital or radial thermometers, manometers, voltmeters etc. to digitally plot and record measurement data instead of buying and maintaining expensive measurements devices that connect to a PC.

Universal logger can track up to 3 measurement devices at the same time enabling students to carry out comparative experiments.

*Cost saving study available upon request.

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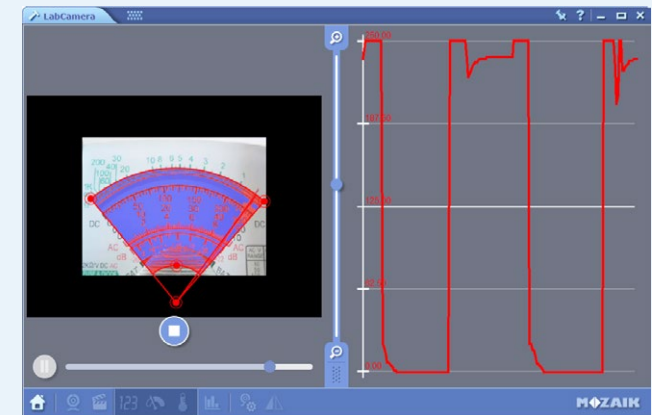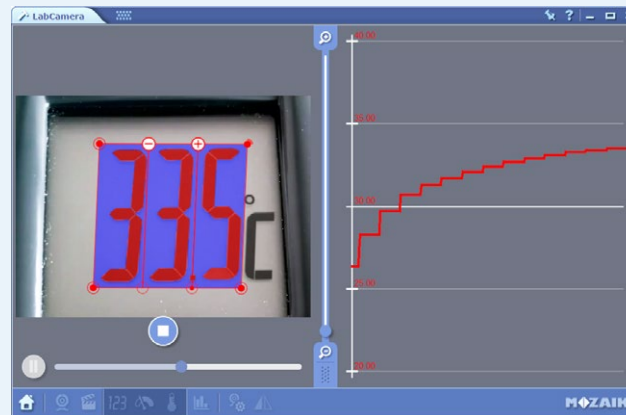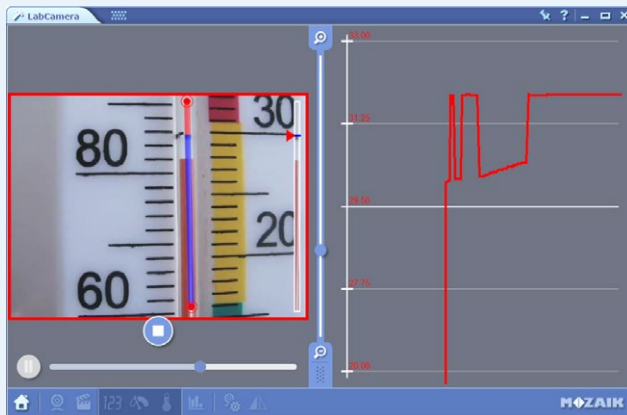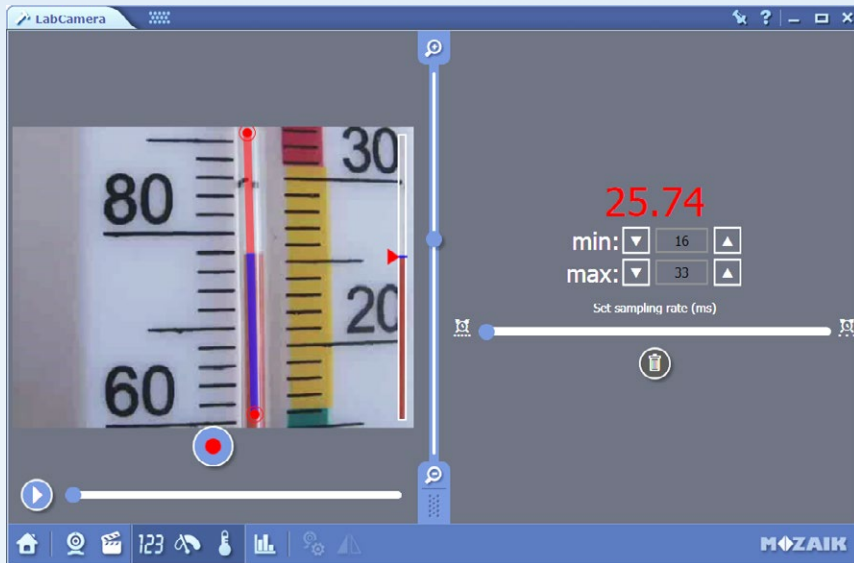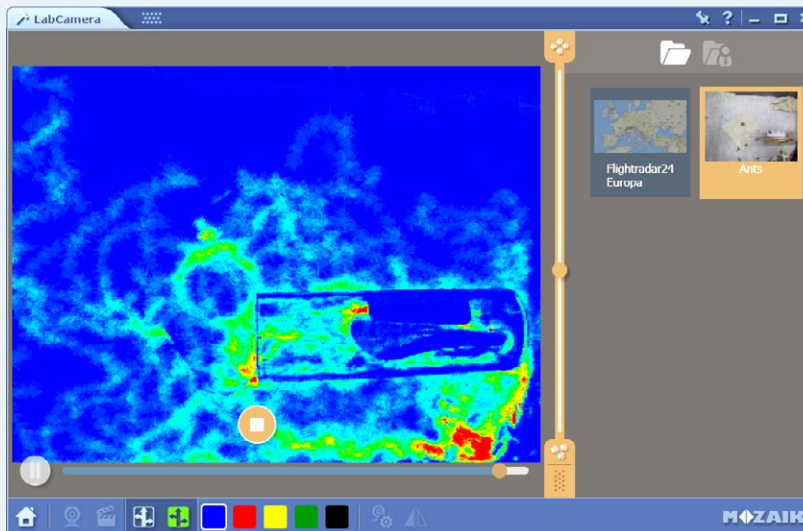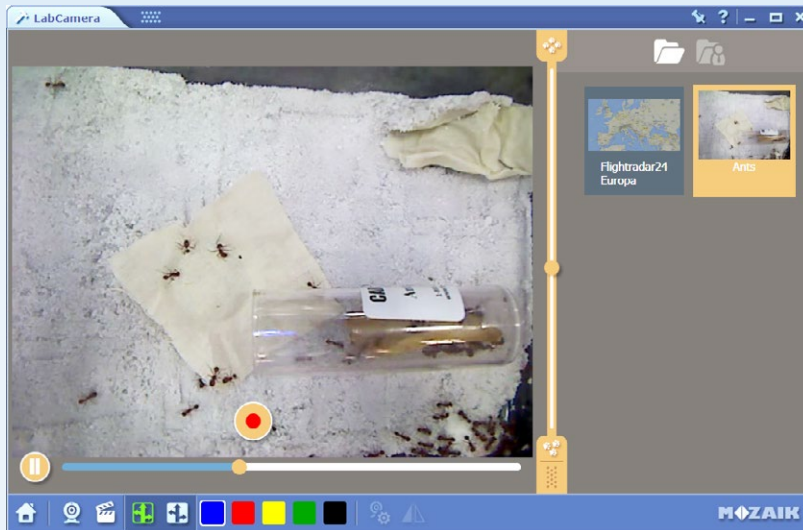
Pathfinder

Track and detect the unseen paths and patterns of moving objects and beings.

Toggle between path and motion density maps to find patterns in seemingly chaotic motion.

With a thermal-like image display or a classic path map, Pathfinder allows you to upload videos or use your device's camera to track patterns in moving objects or animals.

Features

- *Load video*
- *Two display modes (Thermal Like/Path Map)*
- *Two path thicknesses (Lighter/Stronger path)*
- *Mirror View*
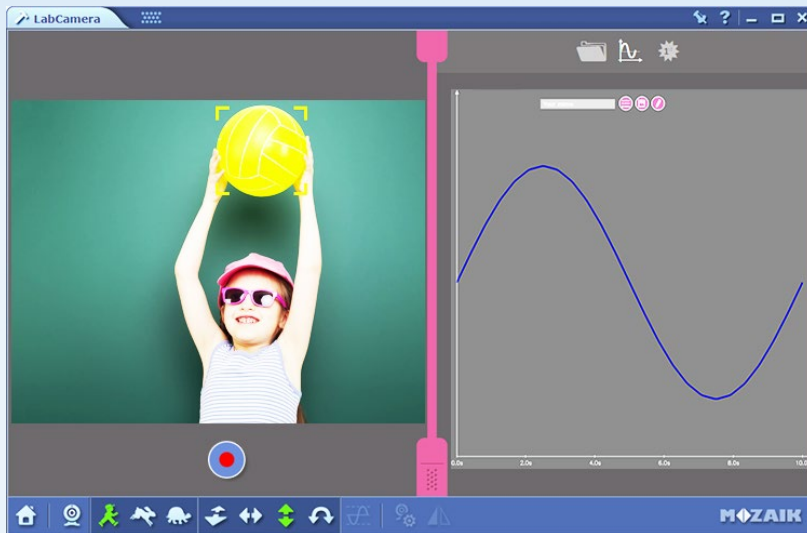
Graph Challenge

Understand graphs through a game-like app that follows your moves and compares it to a predefined curve.

Select a curve, grab your marker or any colored object, and hit the play button. All you need to do is move your body to follow the curve. You will be amazed how fun movement graphs can be!

With a printable predefined marker included in the app, Graph Challenge is a game-like application that makes children understand the concept of graphs.

Graph challenge has game modes for all directions and rotation. Suitable for all ages during subjects involving graphs. Ideal to stir up the lesson by making children move and compete.

Features

- Four challenge types (Near-Far, Horizontal, Vertical, Rotation)
- Three challenge speeds (Slow, Normal, Fast)
- Movement area calibration
- Size calibration
- Create/Load graph