

Learning Scenario

Teaching space science using a model Lego robotic telescope

Language(s): English

Domain: ICT>Control concepts>Modelling, Science>Physics>Light>Light sources, Science>Physics>Tools for science>Observatories, Science>Astronomy>Astronomy>Stars

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Description/ main idea

This scenario works through the process of building a model robotic telescope from Lego and then using it to teach aspects of science in the classroom.

This learning scenario brings together computer science and physics using a toy that every child can relate to. This scenario can be run in several different ways depending on how much of the equipment you set up in advance. This makes a fantastic STEM project as it allows for the collaboration of pupils working on small different tasks that when complete results in a finished project that has incorporated Maths, Science and Technology.

Phases & Activities

Scenario PDF File

Learning objectives

Cognitive - Knowledge:

Conceptual: Describe the techniques used to find the position of a star

Procedural: Follow instructions to successfully build a model telescope

Meta cognitive: Pupils are able to work well as a team and manage their own tasks to ensure the completion of the project.

Cognitive - Process:

To understand: Pupils will understand the method for how to measure the brightness of a star

To apply: To apply the theory of locating stars to a classroom situation with a model telescope

Affective:

To organize values: The pupils will learn to organise their work as a team to ensure completion of the project.

To form and follow a system of values: Pupils will need to follow a system of behaviour values in order to complete the work and not let their team down.

Psychomotor:

To perform independently, skillfully and precisely: To work skillfully at building a model telescope independently following instructions

Grade & Age

11-18

Keywords/subject

Space, Physics, Stars, Computer, Science, Programming