Optical Devices Research and Explanation

Students will select either an optical device or a phenomena involving reflection or refraction to explain using either ray models, calculations, a physical demonstration or any combination of the above.

TOPIC: How do optical devices/phenomena work?

LEARNING GOAL:By the end of this class, students will be able to explain the path of light through an optical device or during a particular phenomena using any of the methods learned in class.(ray diagrams, physical demonstration or mathematical equations)

BEFORE YOU COME TO CLASS:
Research a particular device that you would like to explain.

IN CLASS WE WILL BE COMPLETING:
Select an optical device (camera, telescope, periscope, fiber optic cable etc) or some occurrence of an optical phenomena (why the sun flattens out at sunset, shrinking astronaut heads, floating coin) and explain how this happens or how the device works

You may use *ray diagrams, a physical model or even calculations* to aid your explanation.

HOW WILL YOU KNOW YOU ARE READY:

ASSESSMENT - WHAT YOU NEED TO HAND IN:
brief presentations and submission of (model, diagram or calculations) will be assessed for:
10 marks communication
10 marks application.

SIMULATION EVALUATION

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
APPLICATION - selects best tools for simulation - refines simulation to account for new variables, info - links parts of phenomena to devices in simulation	- tools are selected or used - simulation explains limited information well - few elements of phenomena are identified in simulation	- tools are selected or used - simulation might adapt to additional information - some elements of phenomena are identified in simulation	- appropriate **tools** are selected and used - simulation could **incorporate** additional information during presentation - specific elements of **phenomena** are identified in simulation	- ideal tools are selected and used appropriately - simulation incorporates additional information during presentation - specific elements of phenomena are explained clearly in simulation
Comments				
COMMUNICATION - connection and explanation of phenomena - concept described to appropriate depth	- simulation represents related ideas - concept in simulation is explained with limited detail	- simulation represents intended ideas - relevant concept in simulation is explained with some detail	- simulation accurately **represents** intended **ideas** - important **concept** in simulation is **explained** with appropriate detail	- simulation accurately illustrates intended ideas - important concepts in simulation are explained with appropriate and accurate detail
Comments				

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