



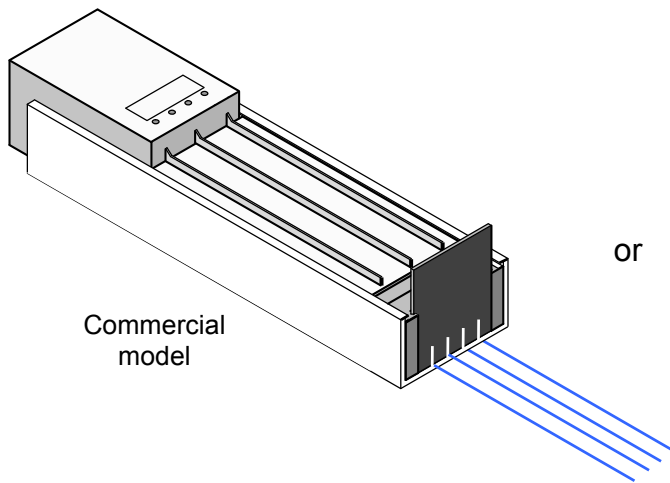
Name: \_\_\_\_\_

Group: \_\_\_\_\_



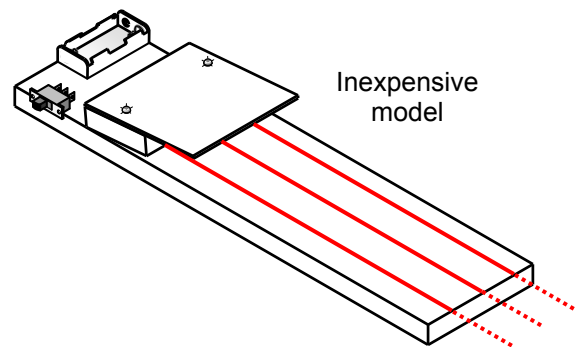
## Scientific investigation about the convergence and divergence of light rays

### Light ray box



Commercial  
model

or

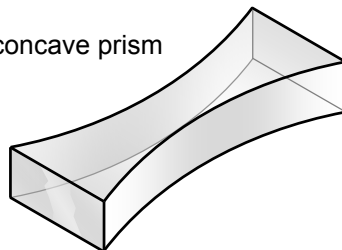


Inexpensive  
model

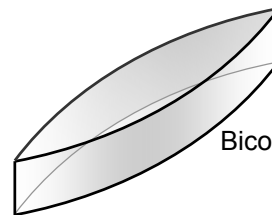
When you want to study the behaviour of light in a given environment, it is very useful to use a light ray box. This box generates light rays parallel to one another. By observing the path of these rays of light, we come to understand the function of an optical device like a prism.

In your opinion, how will parallel rays of light behave when crossing these prisms?

Biconcave prism



Biconvex prism

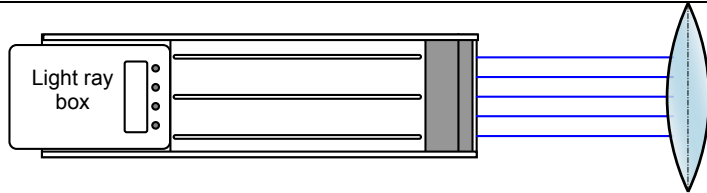


### Your mandate:

Produce and carry out a process that will allow you to determine how biconcave and concave prisms change the path of parallel light rays.



## Suggest an explanation (Hypothesis)

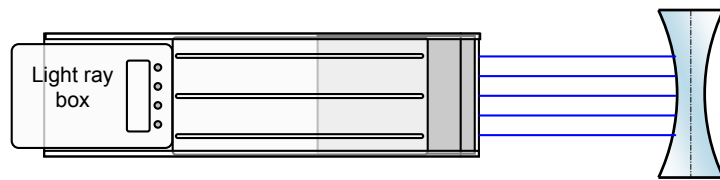


Justification:

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Justification:

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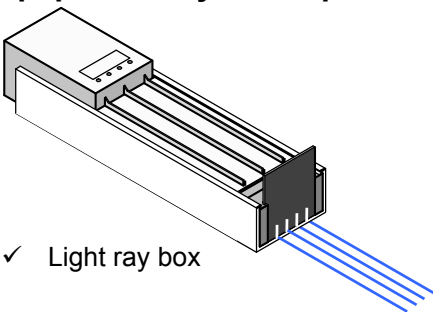
Cr1	Appropriate representation of the situation	Formulation of hypotheses	
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## Planning and implementing the process

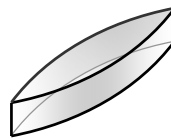


Equipment at your disposal:

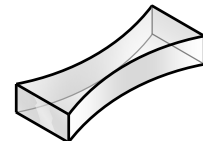


✓ Light ray box

✓ Biconvex prism



✓ Biconcave prism



✓ Paper  
✓ Pencil

**Based on the supplied equipment, plan your process:**

- If you must change the elements as you go along, use a different colour pencil to adjust your initial plan.

Cr2	Development of a suitable plan of action	Planning of steps in the plan of action (manipulations, diagram of the assembly, etc.)	
		Selection of resources (materials, equipment, etc.)	
Cr3	Appropriate implementation of the plan of action	Observance of safety rules	
		Use of appropriate strategies and techniques	



## **Data**

### **Note your observations**

Note: We recommend you use graph paper

Cr3	Appropriate implementation of the plan of action	Recording of data	
		Use appropriate types of representation (diagrams)	



## ***Difficulties and adjustments***

**Note what you experienced**

Difficulties encountered	Adjustments made
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Cr3	Appropriate implementation of the plan of action	Adjustments during the implementation of the plan of action	
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## ***Working out explanations and concluding***

Is your hypothesis confirmed or refuted?     Confirmed                       Refuted

Why? Explain your choice based on your results and observations.

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What do you take away from this process (what is the most important thing to remember?)

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If you could start your investigation over, explain what you would do differently and why.

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Cr4	Development of relevant explanations, solutions or conclusions	Verification of consistency of the hypothesis with the analysis of the results.	
		Formulation of explanations or conclusions in accordance with the data collected and knowledge acquired	
		Proposal of improvements	
		Use of appropriate terminology, rules and conventions	