

Light Program of Study – Interaction of Light and Objects Overview

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Inquiry-based Science Curriculum from
The *Guided Inquiry supporting Multiple Literacies* Project
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Light Program of Study: Investigating the Interaction of Light and Objects

CYCLE 1				CYCLE 2			
<i>Question:</i> How does light interact with objects?				<i>Question:</i> What happens to <u>all</u> of the light when it interacts with objects?			
<i>1st Hand Investigation</i>				<i>1st Hand Investigation</i>			
ENGAGE What we think we know PREPARE TO INVESTIGATE	INVESTIGATE Work with 20 different materials.	REPORT Claims about how light behaves in interacting with objects.	REPORT (cont.)	ENGAGE INVESTIGATE Work with a subset of materials.	PREPARE TO REPORT Groups make displays of findings.	REPORT Claims about how light behaves in interacting with objects.	REPORT (cont.)
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8

CYCLE 3		CYCLE 4			CYCLE 5		
<i>Question:</i> How does light interact with solids?		<i>Question:</i> How much is light reflected from, transmitted through, and absorbed by an object?			<i>Question:</i> What is the reflection of light like?		
<i>2nd Hand Investigation</i>		<i>1st Hand Investigation</i>			<i>1st Hand Investigation</i>		
<i>Notebook Text</i> Investigation without light meter.	<i>Notebook Text</i> Investigation <u>with</u> light meter.	ENGAGE INVESTIGATE Work with a few materials.	REPORT Claims about the relationship among the different ways light behaves.	REPORT (cont.) Generalize about the behavior of light with objects.	ENGAGE PREPARE TO INVESTIGATE INVESTIGATE Work with plane mirrors.	PREPARE TO REPORT REPORT Claims about the relationship between the incoming and outgoing light.	REPORT (cont.)
Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14

CYCLE 6			CYCLE 7 (one option)		CYCLE 7 (a second option)		
<i>Question:</i> What is the reflection of light like?			<i>Question:</i> How does light interact with mirrors?		<i>Question:</i> How does light interact with mirrors?		
<i>1st Hand Investigation</i>			<i>2nd Hand Investigation</i>		<i>2nd Hand Investigation</i>		
PREPARE TO INVESTIGATE (quantify) INVESTIGATE Check light at more extreme angles, measure angles of incoming & outgoing light.	PREPARE TO REPORT REPORT Claims about the relationship between the incoming and outgoing light.	REPORT (cont.) Generalize about the reflection of light from a surface.	<i>Notebook Text</i> Investigation with a plane mirror.	<i>Notebook Text</i> Investigation with curved mirrors.	<i>Notebook Text</i> Newton's investigations with prisms.	<i>Notebook Text</i> Explaining the colors on the cover of a book.	<i>Notebook Text</i> New colors from mixing the primary colors of light.
Day 14	Day 15	Day 16	Day 17	Day 18	Day 17	Day 18	Day 19