

Optics and Light Unit

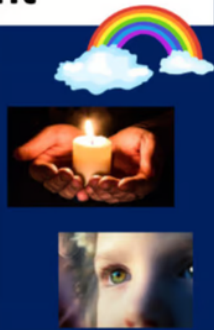
- ✓ **Multi-format Activities:** Labs, scavenger hunts, readings, projects, and quizzes.
- ✓ **Student-Centered Learning:** Hands-on tasks, research, diagrams, videos, and comprehension questions.
- ✓ **Fully Editable, Digital & Printable**



Bundle Includes

Light

- Overview of light
- Properties of light
- Luminous and non-luminous objects
- History of light
- The electromagnetic spectrum
- Prisms
- Colour & Colour Blindness



This digital presentation includes both Google and Office resources and is **Google Classroom Ready**

The Production of Light

- Incandescence
- Light-Emitting Diode (LED)
- Fluorescent lights
- Compact Fluorescent lights (CFLs)
- Electric Discharge
- Phosphorescence
- Fluorescence
- Chemiluminescence
- Bioluminescence



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Chapter 1: Light

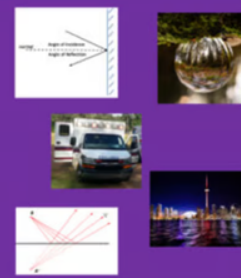
Digital Interactive Notebook Pages

- 100% Digital and Interactive
- Perfect for your Google Classroom or Microsoft OneDrive



Introduction to Reflection and Plane Mirrors

- Reflection
- Terminology
- Types of Mirrors
- Law of Reflection
- Types of Reflection
- Ray Diagrams
- Locating Images in a Mirror
- Lateral Inversion
- Describing Images



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Light Optics and The Production of Light Lab Station Activity



7 Lab Station Activities to get your kids out of their seats and engaged in their learning

Lenses and Focal Point

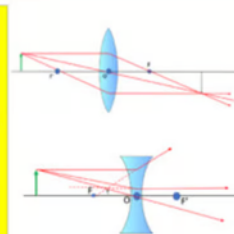
- Lenses
- Types of Lenses
- Converging Lenses
- Diverging Lenses
- Optical Centre, Focal Point, and Secondary Principal Focus



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Lenses and Ray Diagrams

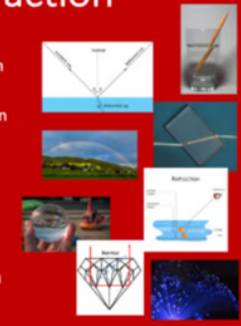
- Mirrors vs. Lenses
- Review Lens Types
- Converging Lens Rules
- Diverging Lens Rules
- Ray Diagrams
- Locating Images



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Refraction

- What Refraction Is
- Reflection vs. Refraction
- Rules of Refraction
- The Impact of Refraction on Images
- Apparent Depth
- Partial Reflection and Refraction
- Speed of Light
- Index of Refraction
- Total Internal Reflection
- Fiber Optics



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Device-Based Scavenger Hunt Refraction



- Includes
- 5 Unique Locations
 - Online form submission
 - Answer Key

Works on all smartphones, tablets, Chromebooks, and laptops

100% Digital

- Simulations
- Quizzes
- Videos
- Games
- Word Scramble
- and more



The Eye

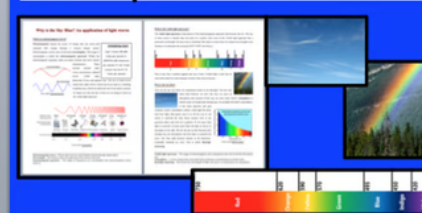
- Blind Spot
- Eye Function
- Eye Anatomy
- Eye vs. Brain
- Eye vs. Camera
- Accommodation and Focusing
- Myopia
- Hyperopia
- Presbyopia
- Astigmatism
- Contact Lenses
- Laser Eye Surgery



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Why is the Sky Blue? An application of light waves

Scientific Reading Comprehension Article



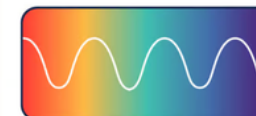
Improve your students **Scientific Literacy and Analysis Skills**, use as an **Emergency Substitute Plan** or create **Applicability** in your classroom

Light and Waves Word Search and Scramble

THREE Activities in One!



1. Basic 25-Term Word Search
2. Scrambled Words Word Search
3. Word Scramble and Define Activity



Teaching Timeline and Resources Outlined and Explained

Optics and Light Unit – Teaching Timeline

Day	Resource Title	Focus in the Unit
1	Light – Properties & Characteristics – Lesson	Introduces the fundamental properties of light, EM spectrum, wave vs particle nature.
2	Light – Digital Interactive Notebook Pages	Assessment: Engage your students and utilize technology to bring science to life for your students. This package of interactive notebook pages contains 4 interactive activities plus an extension activity.
3	The Production of Light – Lesson	Explores how light is produced (incandescent, luminescence, etc.) and connects to natural/artificial sources.
4	Light Optics and its Production Lab Station Activity 7 Hands-on Activities	Assessment: students rotate through hands-on stations covering reflection, refraction, lenses, and light production. Assessment includes lab “passports” and reflection questions.
5	Ray Diagrams, Reflection and Plane Mirrors – Lesson	Covers the law of reflection, ray diagrams for plane mirrors, and image characteristics.
6	Lenses and Focal Point – Lesson	Introduces convex/concave lenses, focal length, and ray paths through lenses.
7	Lenses and Ray Diagrams – Lesson	Students practice ray tracing for converging/diverging lenses, predicting image type (real/virtual).
8	The Human Eye Lesson The Human Visual System - Lesson	Applies optics to biology: how the eye forms images, vision issues, and corrective lenses.
9	Refraction and Optical Devices - Lesson	Teaches refraction, Snell’s law (conceptual/mathematical), and how optical devices exploit refraction.
10	Refraction – A Digital Scavenger Hunt Activity	Assessment: Reinforces refraction concepts interactively with device-based quizzes, simulations, and puzzles.
11	Why is the Sky Blue? Reading and/or Light and Optics Word Search and Scramble Activity	Assessment: Conclude your unit with a reading on why the sky looks blue and/or a review of terms with a word search and scramble activity.

Assessment:

- Lab Station Activity Passports
- Digital Scavenger Hunt Activity and Digital Interactive Notebook
- Word Search and Scramble reviews vocabulary for formative assessment
- Reading includes comprehension questions for formative assessment

Who is this Bundle for?

- **Science teachers who want multiple resources at their fingertips including lessons and a variety of activities, in order to engage their students.**
- **Teachers who don't have time to develop their own resources or organize what to teach and when.**