

Grade 4	Science	Week 6
Lesson Title: Light		
Weekly Learning Targets: Students can observe light waves and how they pass through objects.		
Next Generation Science Standards 4.PS3.2 – Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.		
MONDAY		
Daily Learning Target: Students can demonstrate how light is reflected, refracted, and absorbed when it interacts with lenses and other materials.		
Learning Tasks: After reviewing the previous lesson, the class can take a look at the picture on page 22 of their science books of a frog party submerged in the water. After discussing why the frog appears like that, the class can watch this video (SM A) for an explanation. After watching the video, the teacher can preview the exploratory activity with the students. The teacher should fill a tub halfway with water and place a mirror in the water at an angle. Students will then observe what happens when you shine a flashlight onto the mirror. Students will record what colors they see and infer what causes the white light to spread into colors. In their science notebooks, students will write conclusions that they can make about white light according to the experiment.		
Daily Formative Assessment: The teacher can check the students’ lab report and notebook.		
TUESDAY		
Daily Learning Target: Students can identify different sources of light.		
Learning Tasks: At the start of class, the students can review the previous lesson. After review, the class can read about different sources of light on page 23 and answer the questions. The class can also create a list with different sources of light. They can also watch this video (SM C) showing the different sources and reviewing vocabulary. In the students’ notebook, students can write about how a light source creates light.		
Daily Formative Assessment: The teacher can check the students’ questions on page 23.		
WEDNESDAY		
Daily Learning Target: Students can explain visible light and the visible light spectrum and how prisms function.		
Learning Tasks: At the beginning, the class can go over this PowerPoint (SM D) to review key vocabulary and the light spectrum. Then, the class can repeat the same activity from Monday or use a prism or CD to show the different colors of the visible light spectrum. Then, the students can read page 24 in the text about visible light and answer the questions. On page 25, the students can read about a prism and identify what it does. The students can also answer the questions in the book. Lastly, the teacher can set up an experiment to test to see what materials or substances can cause light to bend and form a rainbow.		
Daily Formative Assessment: The teacher can check the students work in their textbooks.		
THURSDAY		
Daily Learning Target: Students can describe how light interacts with matter.		
Learning Tasks: At the start of class, the teacher can review the key vocabulary from the previous lesson. After, the teacher can preview and practice vocabulary for today’s lesson including: refraction, reflection, matter, and halos. Then, the teacher can do the following activity. Students will draw a simple design on white paper and place the design six inches behind a mason jar. Then, the students will look through the jar and make observations. Then, they will look through the jar at the image while water is being poured through it and make any observations. (SM C) After discussing the activity, the class can read page 26 and then discuss the activity and answer any questions. The teacher can also set up stations and have students shine light at different objects and record their observations. (SM D)		
Daily Formative Assessment: The teacher can give feedback on the students’ responses during the activity.		

FRIDAY

Daily Learning Target: Students can observe and explain what happens to light if it is absorbed by an object.

Learning Tasks: After reviewing the previous lesson's vocabulary, the class can preview and practice upcoming vocabulary like absorption. Then, the class can do the following activity. Before class, the teacher can set out an object that reflects light, like a mirror, and an object that absorbs light, like black rubber, in the sun. The class can then compare the two based on heat and make observations. Then, the class can read page 27 about absorption. Then, the students can answer questions #7 to 10 in their book. The teacher can also set up stations and have students shine light at different objects and record their observations. (SM D) The class can also read this book about light together. (SM E) In the story a fire fly can't play hide and seek with her friends because of her light. Based on what they learned, students can come up with a solution for her to play.

Daily Formative Assessment: The teacher can check the students' answers.

Grade 4– Science – Week 6	MATERIALS / RESOURCES
	<p>pencil, science journal, mirror, plastic tub, flashlight, white paper, metric ruler, prism, mason jars, water</p> <p>A – Refraction in Water - https://www.youtube.com/watch?v=SeaWCamCHWQ</p> <p>B – Sources of Light Video - https://study.com/academy/lesson/light-energy-sources-lesson-for-kids.html</p> <p>C – Mason Jar Activity – https://pepper-mt.oise.utoronto.ca/data/note/220247/Light%20%26%20Sound%20-%20Handout.pdf</p> <p>D – Light Stations - https://www.teachengineering.org/activities/view/van_troll_lesson02_activity1</p> <p>E – <i>Firenze's Light</i> - https://www.amazon.com/Firenzes-Light-Jessica-Collaco/dp/0991460707/</p> <p>Additional Resources</p> <p>Energy Science - https://www.teacherspayteachers.com/Product/Energy-Science-823866</p> <p>Energy PowerPoint - https://epicscience.net/4th/unit-4/</p> <p>NGSS - https://www.nextgenscience.org/sites/default/files/4%20combined%20DCI%20standardsf.pdf</p> <p>Sound and Light - https://www.fossweb.com/delegate/ssi-wdf-ucm-webContent/groups/public/@guestmktgfoss/documents/document/mday/nzmz/~edisp/g3931780.pdf?MappedFolderRedirect</p> <p>Light Lesson Plans - https://betterlesson.com/lesson/633209/absorption-transmission-and-reflection-creating-models</p>