

Grade 1 Science & Engineering

In Grade One, students explore light and shadows, sound and birds. Science and engineering practices are woven throughout all of the science content, as well as the use of science notebooks and integration with the other curriculum areas. Students learn about scientists and engineers from diverse backgrounds and reflect on how they (as student scientists and engineers) are similar to them. Engineering ProblemSolver lessons that match the content are woven throughout the year.

Unit	Description	Essential Questions
Introduction to Science and Science Notebooks	At every grade level (CPP-8), Cambridge students begin the year exploring what science is, why science is important to them, who scientists are and what they do, and how they will use science notebooks to record their questions, observations, ideas and explanations throughout the year. These skills build over time as students move from grade to grade.	What is science? Why is it important to me? Who are scientists and what do they do? How and why do scientists use science notebooks?
Light and Shadows	Students investigate how shadows are made outside and inside using different materials. They apply their learning by making shadow puppets. Students also explore how they can use mirrors to redirect a light beam and brainstorm ways to communicate using light.	How are shadows made?
Investigating Sound	Using different materials, students investigate the connections between vibrations and sound. They use what they learn to uncover ideas about how people use sound to send messages.	What causes sound?
BirdSleuths	Building on their nature experiences in Kindergarten, first graders explore what makes a bird a bird and learn about scientists that study birds. In small groups, they observe different pieces of evidence of a set of mystery birds (skulls, beaks, feet, feathers, eggs, and nests) and use that evidence to figure out what their mystery bird eats, how it moves and where it lives. Connecting back to Investigating Sound, they also explore how and why birds sing. Finally, students learn about	What features and behaviors do birds have that help them survive where they live? How can we use what we know about birds to help them survive in Cambridge?

the different ways they can take action to help birds by creating habitat and much more.