

TeachEngineering invites you to propose an original, hands-on Grade 1 activity that aligns to specific engineering-focused NGSS Performance Expectations. Your creative STEM activity could enrich our free engineering collection that reaches over 3.5 million educators annually. We look forward to your imaginative ideas! You can even get creative and submit more than one proposal. Go to [teachengr.link/k2proposal](https://teachengr.link/k2proposal) for proposal submission guidelines, schedule, and compensation details.

## Performance Expectations Waves: Light and Sound

### Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. 1-PS4-1

- **LITERACY** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **SL.1.1**
- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**
- **LITERACY** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **W.1.8**

### Make observations to construct an evidence-based account that objects can be seen only when illuminated. 1-PS4-2

- **LITERACY** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **SL.1.1**
- **LITERACY** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **W.1.8**
- **LITERACY** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. **W.1.2**
- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**

### Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. 1-PS4-3

- **LITERACY** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **SL.1.1**
- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**
- **LITERACY** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **W.1.8**

### Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. 1-PS4-4

- **MATH** Use appropriate tools strategically. **MP.5**
- **MATH** Order three objects by length; compare the lengths of two objects indirectly by using a third object. **1.MD.A.1**
- **MATH** Express the length of an object as a whole number of length units, by layering multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. **1.MD.A.2**
- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**

## Performance Expectations Structure, Function, and Information Processing

### Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.\* 1-LS1-1

- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**
- **MATH** Reason abstractly and quantitatively. **MP.2**

## Performance Expectations Structure, Function, and Information Processing, Continued

### Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. 1-LS1-2

- **MATH** Compare two two-digit numbers based on the meanings of the tens and one digits, recording the results of comparisons with the symbols  $<$ ,  $=$ , and  $>$ . **1.NBT.B.3**
- **MATH** Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning uses. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. **1.NBT.C.4**
- **MATH** Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. **1.NBT.C.5**
- **MATH** Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. **1.NBT.C.6**
- **LITERACY** Ask and answer questions about key details in a text. **RI.1.1**
- **LITERACY** Identify the main topic and retell key details of a text. **RI.1.2**
- **LITERACY** With prompting and support, read informational texts appropriately complex for grade. **RI.1.10**

### Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. 1-LS3-1

- **MATH** Reason abstractly and quantitatively. **MP.2**
- **MATH** Use appropriate tools strategically. **MP.5**
- **MATH** Order three objects by length; compare the lengths of two objects indirectly by using a third object. **1.MD.A.1**
- **LITERACY** Ask and answer questions about key details in a text. **RI.1.1**
- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**
- **LITERACY** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **W.1.8**

## Performance Expectations Space Systems: Patterns and Cycles

### Use observations of the sun, moon, and stars to describe patterns that can be predicted. 1-ESS1-1

- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**
- **LITERACY** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **W.1.8**

### Make observations at different times of year to relate the amount of daylight to the time of year. 1-ESS1-2

- **MATH** Reason abstractly and quantitatively. **MP.2**
- **MATH** Model with mathematics. **MP.4**
- **MATH** Use appropriate tools strategically. **MP.5**
- **MATH** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations to represent the problem. **1.OA.A.1**
- **MATH** Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. **1.MD.C.4**
- **LITERACY** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). **W.1.7**
- **LITERACY** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. **W.1.8**