



# Nature-Watch Activity Kit

## Bird Call

### Bird Call Kit Contents

<u>Item:</u>	<u>Kit Size</u>		
	<b>1</b>	<b>25</b>	<b>100</b>
Wood Cylinders	1	25	100
Metal Plugs	1	25	100
Screws	1	25	100
Necklace Cords	1	25	100
Rosin	1	1	4
Instructor Manual	1	1	1

*This page includes the Next Generation Science Standards (NGSS) mapping for this kit and a Science, Technology, Engineering, and Math (STEM) chart (on back) to use in adapting and extending this activity to other subject areas. The NGSS mapping and STEM chart are brought to you by Resource Area For Teaching (RAFT) in partnership with Nature-Watch.*

*Nature-Watch and Resource Area For Teaching (RAFT) are both dedicated to providing the best in hands-on experiential teaching resources for educators and their students.*

For more information visit:

[www.nature-watch.com](http://www.nature-watch.com) and

[www.raft.net](http://www.raft.net)

**See Back for STEM Chart**

### Next Generation Science Standards Alignment

1-PS4-1:

Plan and conduct an investigation to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

1-PS4-4:

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

2-PS1-2:

Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

K-2-ETS1-2:

Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

3-LS2-1:

Construct an argument that some animals form groups that help members survive.

4-LS1-1:

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2:

Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

4-PS4-3:

Generate and compare multiple solutions that use patterns to transfer information.

3-5-ETS1-3:

Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

MS-LS1-8:

Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memory.

MS-LS2-2:

Construct an explanation that predicts patterns if interactions among organisms across multiple ecosystems.

## Science

- Use the bird call in different environments and observe whether the same birds are drawn to or away from the call
- Try various patterns of twisting speeds on the bird call and observe reactions of birds and other critters in the area

## Technology

- Record the sounds made with bird call and playback outside. Observe reactions of birds around you.
- Play calls from different birds to see the type that is drawn towards each type of call

## Bird Call

## Engineering

- Use various materials to build another version of the bird call, varying the sound and loudness of the device
- Develop a process for amplifying the sound on the existing Bird Call device

## Math

- Operate the device by twisting the Bird Call in different numeric patterns (e.g., left-left-right)
- Measure the pitch of each call made with the device using a smartphone app. Try to increase the pitch and observe the effect on the types of birds responding to the calls

