



YYC Young Citizen Scientists

Birds

Lesson 6: Binocular ID

Duration: 70 minutes **Location:** Indoor/Outdoor

Overview

In this lesson students will:

Introduce students to the parts of binoculars while allowing them to practice adjusting and focusing binoculars. As well, student will understand how to properly handle and care for their binoculars and create personal and group field behaviour expectations.

Learning objectives

By the end of the session, students will be able to:

- Use binoculars safely and effectively to sight animals far away.
- Understand appropriate behaviour when going out to observe animals.

Curriculum links

Grade: 3

Science, Animal Life Cycles

- Classify a variety of animals, based on observable characteristics; e.g., limbs, teeth, body covering, overall shape, backbone.

Equipment required

- Binoculars



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- Pencil
- Paper
- Portable writing surface
- Classroom supplies of your choice (e.g., stapler, ruler and marker)
- Bird ID Tip Sheets
- clips
- bean bags

Additional information

Lesson plan

Time	Activity	Equipment Needed
10 minutes	<p>Show classroom supplies (<i>stapler, ruler, marker</i>) and discuss their appropriate uses (<i>Staplers are for stapling paper, not your hand. Rulers are for measuring not for hitting others. Markers are to be used on paper, not your desk</i>) and what their advantages are to the user (<i>When we use staplers, our papers stay together and don't get lost or make a mess. When we use rulers our lines are straight and we can measure distance accurately. When we use markers it makes our images more beautiful.</i>).</p> <p>Display binoculars and discuss quality and respect. (<i>Binoculars are a high quality piece of equipment that we are fortunate to use. These binoculars have been loaned to us by a group of citizen scientists.</i>)</p> <p>What are binoculars used for? (<i>Binoculars are used to see items far away.</i>)</p>	<ul style="list-style-type: none">• Classroom supplies. E.g., Ruler, stapler and marker.



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	<p>Who uses binoculars? (<i>Many scientists, photographers, explorers and everyday people-citizens, like you and me, use binoculars.</i>)</p> <p>- How should we treat them? (<i>We need to treat them with the same respect and care that we show our things and people here. This means we will not swing them around, drop them, hit them against things, etc.</i>)</p> <p>Discuss lens care. (<i>Try to keep dry and clean. Do not use your fingers to wipe dirt and sand away, blow off debris and use a soft cloth to wipe the rest away.</i>) Discuss keeping the strap around the user's neck. (<i>Do not swing it around or hit it against other items. If you are not using the binoculars, they should be in their protective case.</i>) Respect the tool and be its' caretakers.</p>	
3 minutes	<p>Discuss parts of binocular: eye piece, magnifying lens, width adjustment, focus wheel, neck strap. (<i>Use image provided to help children identify different parts.</i>)</p>	<ul style="list-style-type: none">• Binocular diagram
2 minutes	<p>Demonstrate using binoculars.</p> <ul style="list-style-type: none">• Find the object you want to see with your naked eye.• Then bring the binoculars up to your eyes.• Do you see black? Adjust the binocular width to your eyes until you see one circle and then use the focus wheel until you see the object clearly.	<ul style="list-style-type: none">• Binoculars
10 minutes	<p>Indoor Binocular Activity</p> <ul style="list-style-type: none">• Situate the students at the far end of your classroom or hallway. Students should be placed in teams of two. Pass out binoculars, one per group.• Explain that teams need to practice wearing binoculars around their necks; adjusting them for their eye width and focusing using the focus wheel. After five minutes of practice, place typed Transition Instructions on the far side of the	<ul style="list-style-type: none">• Binoculars• Pencil• Paper• Portable writing surface



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	<p>room/hallway, have students use their binoculars to focus, read and follow the instructions.</p> <p>Transition Instructions</p> <ol style="list-style-type: none"> 1. Read these instructions SILENTLY to yourself. 2. When you have finished reading the instructions, pass the binoculars to your partner if they have not read them. 3. With your partner, go get a piece of unused paper, a pencil, and something solid to write on (a clipboard or a book). 4. Sit together and wait silently for further instructions. <ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Transition Instructions
30 minutes	<p>Schoolyard Binocular Activity</p> <ul style="list-style-type: none"> • Explain activity. Each team will be collecting and recording the six tips for how to properly identify birds. Each team will move from place-to-place (<i>point out locations where you have placed the Bird ID tips</i>), stand behind the line (<i>bean bag you have placed far in front of the tip sheets</i>), use their binoculars to read the tip, write it down, then go to the next place, etc. When they have the 6 complete tips, they report to the teacher. • Do activity. 	<ul style="list-style-type: none"> • Bird ID tip sheets • clips • bean bags • Pencil • Paper • Portable writing surface • Binoculars
15 minutes	<p>Debrief by reviewing as a group the 6 different tips for identifying birds (<i>shape, size, field markings, sounds, habitat and behaviour</i>). Discuss why these 6 items help to identify birds.</p> <ul style="list-style-type: none"> ○ Shape: With practice you will be able to recognize many birds, or groups of birds, simply by their silhouette, or shape and posture. Is the bill short or long, thick or thin, curved or straight? What shape is the tail? It is forked, 	



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pointed or straight across at the end? Are the wings pointed or broad, long, short?

- Size: Ask yourself, how big is this bird?
If it's about the size of a House Sparrow, it's around 12-15 cm.
If it's about the size of an American Robin, it's around 25 cm.
If it's about the size of an American Crow, it's around 43-53 cm.
By using descriptions such as "larger than a crow" or "smaller than a sparrow" you have a quick way to describe a bird's approximate size. But be cautious – size comparison can be tricky, especially when you see birds from a distance.
- Field Markings: You can use a bird's distinctive colours and patterns to identify it. Check the colour of major body parts like chest, wings, head, eyes and tail. Sometimes the colour of one of these body parts alone will help to identify it from other species. But be careful- a bird's colour can change or be affected by light, the angle and time of year.
- Sound: Just like people, birds have unique sounds and calls. Even beginner birders can use their ears to help them distinguish bird species.
- Habitat: Understanding what bird species are most likely to live in your local habitat will help to narrow down the list of possible birds you will see. Some birds may prefer forested areas. While others enjoying living near the water or perhaps in wide open fields. For example, Osprey and ducks are usually found near water and House Sparrows are common in suburban neighbourhoods living in bushes.
- Behaviour: Observing what birds are doing is a great tip to identifying them. Is it swimming? It is banging its' beak against a tree trunk or soaring high overhead in circles? Some birds' behaviour takes them far away from



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	<p>where you live due to their migration patterns. Checking field guides and Merlin Bird ID or eBird to better understand what birds are going to be in your area at certain times of year can help you identify them.</p> <p>Explain that scientists have to be 100% sure of the species they are documenting. Scientists cannot guess and assume what animal they saw. The same is true for citizen scientists. Citizen scientists need to be 100% sure of the species of bird they are logging into their citizen science application, or else the data given to scientists may not be true. So every person needs to use these tips to make sure they are properly identifying the bird species they are recording and submitting.</p>	
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Extension

1. Prior to going outside, have the group brainstorm a list of appropriate field behaviours that will guide the group's actions outside. *(No running because this can scare off animals. Fast movements are not helpful because they can scare off animals. Whisper voices are best to not disturb animals nearby. Creating a signal to freeze without shouting will reduce the likelihood that animals you see will run away before everyone has a chance to see them... etc.)*
Have students make a commitment to abide by the guidelines and post it in the classroom as a reminder.