



# YMCA OF THE ROCKIES ESTES PARK CENTER

## 2021 PROGRAMMING ALTERNATIVES

### Virtual and Day Programs

#### Virtual Programs (Zoom or Microsoft Teams)

Age Range: All ages are welcome! Lessons can be adapted to Elementary, Middle and High School students.

Price: \$20 per class

Lesson Topics: Mountain Forest Ecology and Fire Ecology

Time: 1hr. (can be adjusted to class period)



### Mountain Forest Ecology

Join the YMCA of the Rockies instructors virtually to learn about the tree and animal species that live in the Rocky Mountains. Take that knowledge and go explore your school yard with a BioBlitz (the study of species) to see what trees and animals are in your schoolyard! Instructors will then zoom back into your class to learn about the species you found. Students will then learn about the energy level for each species they found (primary producer, primary consumer, secondary consumer, tertiary consumer). The lesson will finish by reflecting on how species interact based on their energy levels in their school yard ecosystem versus the mountain ecosystem.

Materials needed: iPad or iPhone with i-Naturalist app for identification, and paper/pencils.



#### Standards

1. NGSS 5-LS2-1 Develop a model to describe movement of matter among plants, animals, decomposers, and the environment.
2. NGSS MS-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.



## Fire Ecology

Join the YMCA of the Rockies instructors virtually to learn how fire moves across a landscape. Students will begin by reflecting on what they already know about fire. Then students will go through a science investigation to discover how fire moves. Instructors will be using a fire board where students will hypothesize:

1. Does fire move faster uphill or downhill?
2. Will fire move faster if the trees are farther apart or densely packed?
3. Will fire be larger if it is burning human made objects, or just trees?
4. Will the fire be larger if it moves on the crowns of the tree or the ground?

Students will record the results as the instructors perform the experiment. At the end of the experiment, students will come to conclusions about fire based on their results. Students will then reflect with instructors about the current fires of Colorado and discuss why fires are more frequent. Then students will wrap up the lesson by developing a plan of how to manage fire in our forests. An additional game will be provided if there is extra time, or for another class period.

Materials needed: Pen and Paper

Optional Materials: Fire board (instructors will give directions on how to build, so students can do the experiment in the classroom instead of virtually)



### Standards:

1. NGSS 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
2. NGSS MS- ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.





## Day Programs (Located at the YMCA, your schoolyard, or a local park)

**Age Range:** All ages welcome! Lessons can be adapted to Elementary and High School students.

**Price:** \$70 per lesson/ per group (15 students per group)

**Lunch:** At the YMCA of the Rockies, lunch can be added for an additional charge. Lunch will not be provided if instructors come to your school or a local park.

**Time:** 3 hours unless otherwise indicated

### Lesson Topics\*:

1. Mountain Formations
2. Geology
3. Fire Ecology
4. Elk Ecology
5. Water Ecology
6. Team Building
7. Survival Skills
8. Route Orienteering



To sign up for a lesson, contact:  
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*"Restore Balance. Most children have technology, school, and extracurricular activities covered. It's time to add a pinch of adventure, a sprinkle of sunshine, and a big handful of outdoor play." -Penny Whitehouse*

\*For more information about these lessons refer to our 2021 Information guide