

Earth Bowl Study Guides



City of Ashland - Conservation Commission
Earth Bowl - Middle School Environmental Education Challenge
To be held Monday, April 20th 2015 at Ashland Middle School from
6pm to 8pm.

Your team must pre register with Mark Weir from the Conservation Commission by email at markalanweir@gmail.com. Refreshment provided at event.

It is recommended that two members of your team tackle each topic, so they can develop possible questions, quiz each other, and generally double check each others understanding.

There are a lot of questions so please do not get bogged down in any one subject, you will need to split up the studying within your group. All the questions will come from the websites listed in this study guide. If we need to add sites, we will send you an update. Additionally, sample questions are included for each topic but your actual questions will be different and the samples do not include all the potential questions (there are more than 3 per topic area). Most of all, remember, this is meant to be fun and you informing yourself about our planet. By the time you are through this study guide, you will know significantly more about the earth than most Americans, a true accomplishment. Have fun and good luck.

Topics and sources from which questions are to be drawn are listed below.

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1. Fauna

Birds

Look up the most interesting facts you can find about the following local birds listed below. A great website you can use is : <http://www.allaboutbirds.org/> and <http://www.birdinginformaton.com/>

Focus on the intro paragraphs and cool facts in the life history for each bird.

Bird list: Acorn Woodpecker, American Crow, American Dipper, Anna's Hummingbird, Black-capped Chickadee, Brewer's Blackbird, Common Raven, Cooper's Hawk, Dark-eyed Junco, Downy Woodpecker, European Starling, Golden Crowned Sparrow, House Finch, Killdeer, Lesser Gold Finch, Morning Dove, Northern Flicker, Osprey, Red-winged Blackbird, Spotted Towhee, Western Scrub Jay.

Sample Study Questions

- i. Why are bird populations valuable to monitor?
 - ii. What fraction birds are threatened with extinction?
 - iii. What are the dos and don'ts of having and placing bird feeders?
 - iv. What are the minor and major causes of bird mortality?
- b. Web sites to help with the above questions:

<http://news.nationalgeographic.com/news/2014/08/140825-bird-environment-chemical-contaminant-climate-change-science-winged-warning/>

http://wwf.panda.org/about_our_earth/species/flagship_keystone_indicator_definition/

<http://www.birds.cornell.edu/citsci/take-action/2014/11/dos-and-donts-of-feeder-placement/>

Other Fauna:

Know interesting facts about wolves, black bears, mountain lions, rats, dogs, house & feral cats, raccoons, grey squirrels, bull frogs, black and fish in Bear Creek. Reflect how they interact with the city of Ashland if possible.

For good info on how cats affect wildlife:

<http://www.smithsonianmag.com/science-nature/feral-cats-kill-billions-of-small-critters-each-year-7814590/?no-ist>

For good info on how dogs affect wildlife:

<http://www.asPCA.org/pet-care/virtual-pet-behaviorist/dog-behavior/dogs-chasing-wildlife>

For good info on raccoons, grey squirrels, bats & Starlings:

<http://www.pleasebekind.com/coexist.html>

For good info on black bears and mountain lions:

<https://bouldercolorado.gov/osmp/bears-and-mountain-lions>

For info on how the school district deals with rats:

<http://www.mailtribune.com/article/20141104/NEWS/141109905/101064/NEWS?template=printart>

For info on Bullfrogs in Oregon:

http://www.dfw.state.or.us/conservationstrategy/invasive_species/docs/bullfrog_fact_sheet.pdf

Sample Study Questions

How did wolves affect the Yellowstone National Park ecosystem when they become established?

2. Flora

Good Websites

http://www.statesymbolsusa.org/Oregon/flower_oregongrape.html

<http://www.mailtribune.com/article/20011215/News/312159995?template=printart>

<https://franceshunter.wordpress.com/2011/07/26/nearly-all-the-men-sick-lewis-and-clark-meet-the-camas-root/>

<http://www.temperate-rainforest-facts.com/Temperate-Rainforest-Plant-Facts/Douglas-Fir-Tree-Facts.shtml>

http://en.wikipedia.org/wiki/Douglas_fir

http://oregonstate.edu/trees/broadleaf_genera/species/oak_spp.htm

http://www.oregonwild.org/oregon_forests/old_growth_protection/pacific-northwest-research-station-old-growth-a-unique-ecosystem

<http://www.srl.caltech.edu/personnel/krubal/rainforest/Edit560s6/www/what.htm>
!

<http://www.fws.gov/oregonfwo/species/data/northernspottedowl/>

<http://www.srl.caltech.edu/personnel/krubal/rainforest/Edit560s6/www/what.htm>
!

<http://sanctuaries.noaa.gov/about/ecosystems/kelpdesc.html>

Sample Study Questions

What is the State Flower of Oregon?

What is the name of a purple lily that was an important food source for local Native Americans? The bulbs were dug up and baked in pits?

Pacific Northwest Forests are world leaders in what quality?

3. Environmental History and Economics

Good websites:

<http://www.ohs.org/education/focus/governor-tom-mccall.cfm>

<http://www.ohs.org/education/focus/governor-tom-mccall.cfm>

<http://www.history.com/this-day-in-history/roosevelt-dedicates-the-grand-canyon-as-a-national-monument>

<http://www.history.com/this-day-in-history/roosevelt-dedicates-the-grand-canyon-as-a-national-monument>

<http://pubs.usgs.gov/fs/2002/fs092-02/>

<http://archives.nypl.org/mss/2099>

<http://www.britannica.com/EBchecked/topic/189191/Environmental-Protection-Agency-EPA>

<http://www2.epa.gov/aboutepa/administrator-gina-mccarthy>

<https://pacificforest.org/Cascade-Siskiyou-National-Monument.html>

<http://www.washingtonpost.com/blogs/wonkblog/wp/2013/08/21/al-gore-explains-why-hes-optimistic-about-stopping-global-warming/>

<http://www.nps.gov/nr/travel/ashland/lit.htm>

<http://clevelandhistorical.org/items/show/58#.VQRW59J4pcQ>

<http://www.biography.com/people/rachel-carson-9239741>

<https://www.walden.org/thoreau>

<http://www2.epa.gov/aboutepa/love-canal-tragedy>

<http://news.nationalgeographic.com/news/2010/06/100611-jacques-cousteau-100th-anniversary-birthday-legacy-google/>

http://vault.sierraclub.org/john_muir_exhibit/life/muir_biography.aspx

<http://www.libertyellisfoundation.org/ellis-island-history>

Sample Study Questions

Founded in 1905 by Gilbert Pierson, John Muir and George Grinnell, this was one of the nation's first environmental organizations?

This landscape architect designed Golden Gate Park. Name another of his famous projects?

In the late seventies, in a small community, it was discovered that over 20,000 tons of toxic waste had been buried nearby causing a disturbingly high rate of serious medical problems. It was one of the worst cases of toxic dumping ever discovered. Eventually the homes of almost 900 families near the site had to be demolished and their families moved. The incident was named?

4. Climate Change

All questions will come from these websites:

<http://www.epa.gov/climatechange/kids/index.html>

Consider just the first page of the website below:

http://www.neaq.org/conservation_and_research/climate_change/climate_change_and_the_oceans.php

<http://www.wri.org/blog/2014/11/6-graphs-explain-world%E2%80%99s-top-10-emitters>

Sample Study Questions

Name 3 ways the oceans are changing in response to climate change?

The difference between the terms “weather” and “climate” is often described thus: “Weather” refers to short term average conditions (minutes to months), while “climate” refers to the average weather conditions over a _____ period?

5. Water

All questions will come from these websites

http://water.epa.gov/type/wetlands/vital_status.cfm

http://www.education.noaa.gov/Ocean_and_Coasts/Oil_Spill.html

<http://www.noaa.gov/ocean.html>

<http://www.epa.gov/heatisland/mitigation/greenroofs.htm>

<http://www.dnr.state.mn.us/wetlands/benefits.html>

<http://water.epa.gov/polwaste/nps/kids/middleschool/>

Sample Study Questions

What is the Deepwater Horizon?

In the lower 48 U.S. States, what percent of wetlands have been lost?

Which aquatic life indicates good water quality if found in a stream?

6. Air

Good Websites to study:

<http://kidsenvirohealth.nlm.nih.gov/topic/001/air-pollution/>

http://www.sandiegocounty.gov/grandjury/reports/2002_2003/MissionBayReport.pdf

<http://www.who.int/mediacentre/factsheets/fs313/en/>

<http://www.air-quality.org.uk/25.php>

http://www.epa.gov/ozone/science/q_a.html#q4

<http://www.roguevalleycleanair.org/links-and-resources/inversion-layer.html>

<http://www.epa.gov/acidrain/education/teachersguide.pdf>

Sample Study Questions

During the 1980's, acid rain had a devastating effect on rivers and streams in the United States, what is the name for when lakes become uninhabitable to life because of acid rain?

What problem did the 1987 Montreal Protocol significantly address?

How many people world wide face indoor smoke as a serious health risk from cooking and heating their homes with biomass fuels and coal?

7. Recycling

<http://www.benefits-of-recycling.com/recyclingsymbol/>

<http://www.nrdc.org/recycling/default.asp>

<http://www.Oregon.gov>

<http://www.nrdc.org/living/stuff/what-to-do-about-e-waste.asp>

<http://www.recologyashland.com>

<http://www.recologyashlandsanitaryservice.com/index.php/for-home/prescription-drugs-deposit-box>

<http://www.nrdc.org/living/stuff/what-to-do-about-e-waste.asp>

<http://www.recologyashlandsanitaryservice.com/index.php/for-homes/Ashland-recycling-center#otherservices>

<http://www.recologyashlandsanitaryservice.com/index.php/for-business/commercial-recycling-compost-greendebri-garbage-services#compost>

Sample Study Questions

How is glass collected for recycling in Ashland ?

If the U.S. recycled 75% of the nation's waste by 2030, it would create _____ jobs while significantly reducing pollution, water savings and energy, and building economically strong and healthy communities?

8. Energy

Good Websites to study:

<http://www.eia.gov/kids/index.cfm>

<http://oecdinsights.org/2010/01/25/biofuel/>

<http://www.eia.gov/tools/faqs/faq.cfm?id=427&t=3>

http://www.energystar.gov/index.cfm?c=kids.kids_index

<http://www.altenergy.org/renewables/wholly-renewable.html>

Sample Study Questions

What are sources of renewable energy and non renewable energy?

What is the highest percentage of electricity produced from renewable sources in any country?

9. Sustainability

<http://www.seafoodwatch.org/ocean-issues/fishing-and-farming-methods>

Sample Study Questions

Which form of fishing has the smallest by-catch?

Human Population Growth:

Good Websites to study

<http://www.prb.org/Publications/Datasheets/2014/2014-world-population-data-sheet.aspx>

Population Reference Bureau 2014 highlight video: 6 minutes

<http://www.prb.org/Multimedia/Video/2014/jeff-jordan-world-population.aspx>

Sample Study Questions

Which region of the world has the fastest population growth rate?

Ecosystems Sources:

Good Web Site:

<http://kids.nceas.ucsb.edu/biomes/index.html>

Sample Study Questions

What type of ecosystem can have temperatures below freezing and averages 4 inches of rain a year?

What biome has less than 10 inches of rain, very long summer days and temperatures as high as 50° F?