

TEACHING GUIDES

for the children's music album *Ask the Planet*



Ask the Planet is an award-winning album of children's music from the Biomimicry Institute.

Parents and educators have long called for more creative and palatable approaches to raising awareness about environmental problems. *Ask the Planet* was created to help children connect with nature and develop a sense of awe for the environment. Children need positive solutions and realistic tools, such as biomimicry, to address the challenges that they will grow up with. This music inspires and motivates kids to make a difference.

Teaching Guides

Ask the Planet is a great educational tool in both formal and non-formal educational settings. Song lyrics and FREE teaching guides are available for each of the original songs; Spanish translations are provided for three of them. The activities in the guides are appropriate for elementary school students and include connections to language arts and social studies.

Buy the album, download the complete guides, and learn more at:

www.AskNature.org/resource/ask-the-planet

A Musical Celebration of Nature's Genius

1. **Get Out** 1:54
2. **I Want to Be Like a Tree with Amy Martin** 2:34
3. **Ask the Planet with Amy Martin** 4:02
4. **Keep Our Cool with Brandi Carlile** 4:04
5. **School of the Wild with Laura Love & Bill Sims, Jr.** 3:47
6. **Riddle with Bruce Cockburn** 5:43
7. **Take Care** 1:03
8. **Wise Like You with Laura Love & Dar Williams** 4:36
9. **The Great TV Rebellion with Ani DiFranco** 3:40
10. **No Such Thing as Garbage** 3:24
11. **Thanks with Erin McKeown** 2:25
12. **Do I Belong Here** 4:44
13. **Start from Here with Amy Martin** 4:42
14. **What Kind of Animal Are You with Bill Harley** 3:07
15. **Punk Get Out** 1:02
16. **What's Biomimicry with Amy Martin** 3:45
17. **We Are Not Alone** 3:07
18. **Outside Get Out** 0:30

Ask the Planet
The Missoula Coyote Choir & Friends
AskThePlanetCD.org

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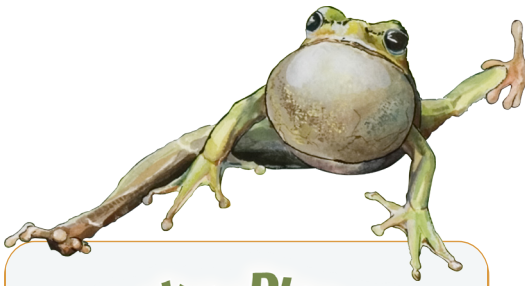
Performed by the Missoula Coyote Choir, a children's music ensemble in Missoula, MT, under the direction of Amy Martin.

Guest Vocals:

Ani DiFranco, Bruce Cockburn, Brandi Carlile, Dar Williams, Erin McKeown, Laura Love, Bill Harley, and Bill Sims, Jr.

Credits

Executive Producer: Bryony Schwan & The Biomimicry Institute
Produced by: Allison Miller & Amy Martin
Project Coordination: Cindy Gilbert
All songs written by: Amy Martin
Recording engineer: Michael Bongiorno
Assistant engineer: Jon Miller
Mixed by: Todd Sickafoose at Earycanal
Mastered by: Alan Douches at West West Side Music
Album Illustrations: Emily Harrington



Ask the Planet

Connections with —

- animal specialization
- scientific inquiry
- journalism

Objectives —

Students will:

- develop creative inquiry skills
- understand the concept that other species have special knowledge to share
- experience the pleasure of having interesting questions (rather than “right” answers)

Vocabulary —

abalone

A medium-sized to very large sea snail, whose exceptionally strong shell is made of microscopic tiles stacked like bricks. When something bangs against an abalone shell, these tiles slide back and forth rather than shattering, resulting in a material stronger than ceramics made by humans. Even better, the abalone makes this super-tough material out of calcium carbonate – also known as chalk!

Ask the Planet 3

Ask the Planet, the title track on the album, gets to the heart of what biomimicry is all about: entering into conversation with the Earth and listening to the wisdom other life forms have to offer. The activities for this song are designed to inspire curiosity and teach inquiry skills.

Discussion —

1. Listen to the song with your students. What does it mean to “ask the planet?” Does the song provide some clues or ideas?
2. The song says “the planet can help you with whatever’s on your mind.” What’s something that is on your mind right now? Where do you go for help with that concern?
3. What are some things that are “on our minds” as a species -- some important problems or questions that are of concern to human beings all over the world? Can you think of any plants or animals that might have special knowledge to help us solve those problems?
4. The second verse of the songs asks four questions, and offers some possible answers:
 1. How do I stay warm in the cold and the snow?
(ask a snowshoe hare)
 2. How can I travel over the Gulf of Mexico?
 3. How can I build a house under the sea?
(ask an abalone)
 4. How do I get my friends to listen to me?
(elephant call)

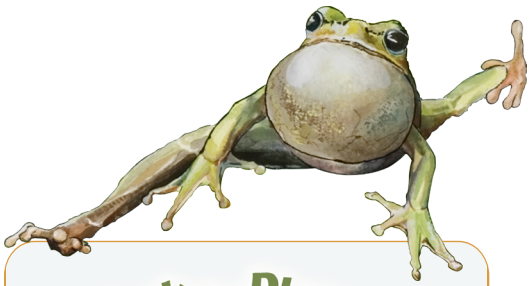
In addition to the snowshoe hare and the abalone, what animals do these or similar things (survive and thrive in freezing temperatures, build things under water). Do humans do these things too? How? How do our methods differ? What could we learn from these other life forms?

And what about that second line, “how can I travel over the Gulf of Mexico?” What organisms do that? What could we learn from them?

(To help stimulate this conversation, share the following excerpt from Janine Benyus’ contribution to *Voices of the Bioneers 2000*, published by the Collective Heritage Institute.)

Janine writes:

“One of my favorite [natural models] is the hummingbird, an organism about the size of my thumb. It flies about 35 miles an hour, which is faster than you can get around San Francisco. They travel about 2,000 miles a year; they’re long distant migrants. When they go down to the Gulf of Mexico, the lip of the Gulf, they find about 1,000 blossoms a day. They fuel up, and then they



Ask the Planet

Vocabulary (continued) —

femur

The thigh bone. It is the longest and strongest bone in the human body, longer than any of the other bones in your *limbs*.

ibex

Any of several species of wild mountain goats, commonly called bouquetin (French) or Steinbock (German), and found in Europe, Asia and Africa. Male ibex have large curved horns.

lemur

A kind of primate found almost exclusively on the island of Madagascar. The word “lemur” is derived from the Latin word lemures, meaning “spirits of the night” or “ghosts”. Look at the following picture to try to guess why: < [lemur photograph](#) >

savanna

A woodland ecosystem in a tropical or subtropical zone which has season rainfall, a variety of grasses, and widely spaced trees.

Ask the Planet 3

burst across the Gulf, 600 miles without stopping, on 2.1 grams of fuel. In the process of fueling up the hummingbird pollinates flowers, assuring itself that it'll have fuel next year, and that its offspring will have fuel. It pollinates as it's fueling up, and of course when it dies, its body decays and nurtures the roots of those flowers. That's what we're looking to do, to emulate this amazing ability that life has to fertilize the soil, clean the air, clean the water and mix the right cocktail of atmospheric gasses that life needs to live. What life in ensemble has learned to do is to create conditions conducive to life. The question, "What would nature do here?" is the key." < [full text](#) >

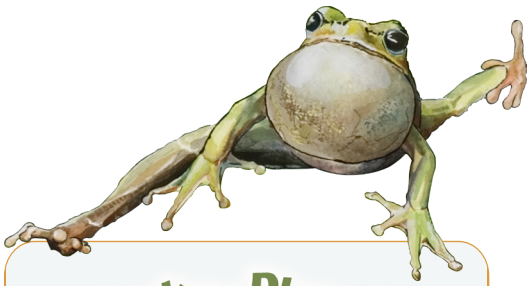
Activities —

1. Go for a walk around the block together. Pay attention to all the living things you see – students may want to bring their notebooks and keep a list. Back in the classroom, chose one of the life forms encountered and write a letter to it. Encourage students to think about special knowledge that this life form might have. For instance, if a student chooses a maple tree, she may want to ask what it's like to be so tall, or how it feels when a squirrel runs across its branches. Students can write responses to their own letters, or responses can be written by the teacher or other students in the class. Emphasize that the point is creative questions, not “right” answers, and encourage them to let their imaginations run wild.

GROW IT: Each student can chose to become “pen-pals” with this plant or animal, writing back and forth over a period of weeks or months. The longer the relationship is continued, the more will be revealed about the organism and its special knowledge. Seasonal changes, lifespan, reproductive cycle and other factors will all eventually come into play. What does a prairie know in the winter that's different from what it knows in the summer? What does a mother wolf have to tell us in May? In September?

2. The song describes four categories of life forms:
 - something scaly
 - something hairy
 - something slimy
 - something feathered

Divide the class into four groups, the scalies, the hairies, the slimies and the feathereds. Each group thinks of a life form that fits that category (for instance, a scaly tuna fish) and something that the life form does really well (such as swimming). This discussion must take place quietly, in order to keep it secret from the rest of class. Once they have made their choice, each group stands before the class and *becomes* their chosen life



Ask the Planet

Vocabulary (continued) —

snowshoe hare

A type of hare which turns white in the winter and reddish brown in the summer. Its big back feet help keep it from sinking into the snow in winter – like snowshoes.

subliminal message

Derived from the Latin words *sub*, meaning under, and *limen*, meaning threshold, subliminal messages are received under the threshold of your normal perception. For instance, an advertisement showing smiling people eating a certain kind of food sends a message that eating this food will make you happy, even though that idea is never stated directly. For extra credit, find the “subliminal message” in this line of the song. Hint – it’s a pun, and there’s a clue in the definition for “femur.”

tundra

A cold region with short growing seasons in which the only vegetation is dwarf shrubs, sedges, grasses, mosses and lichens. The two types of tundra are Arctic tundra (which occurs at both poles) and alpine tundra (which occurs in high altitudes).

Ask the Planet 3

form, acting out the special skill they discussed. The rest of the class guesses what the animal is and what skill the group has chosen to feature. After all groups have had a turn, you can mix up the categories and have them do it again.

3. In partners, students imagine that they are a non-human life form that they find interesting. Pretend that you (the teacher) are the host of a new TV talk show called “Ask the Planet,” and invite each pair to appear on the show, which will “air” in three days. Tell them that they will be interviewed in front of the class, and assist them in researching their life form in order to prepare for their TV appearance.

On the day of the interview, set chairs next to the teacher’s desk, and introduce each featured species with fun and fanfare. For instance, you could have the interviewees wait outside the door, and then have them enter the “studio” as you play a little bit of the song while the “studio audience” claps. Then you ask each pair of students questions such as:

- Where do you live?
- What do you eat?
- What kind of sounds do you make?
- What are some of your special skills?
- Do you know of a problem that we humans are having that you might help us to solve? How?
- What other things can humans learn from you? Do you do something really well that we humans aren’t as good at?

After you have modeled this inquiry for them, take the “microphone” into the “audience,” and let the students ask questions too. Encourage them to imagine questions that are relevant to their own lives which this species might know about. For instance, if the featured species is an ant, a student might ask, “My little brother is starting kindergarten next year, and he’s scared that he’s going to get lost on the way to school. I know you ants are really good at finding your way to and from home. Do you have any advice that I can pass on to him?”

GROW IT: Have adults or older students videotape the interviews and edit them together into a full show, then watch the show together as a class. With parents’ permission, videos could be shown at school fairs or other events, or could be swapped with other schools doing the same activity.

4. Write the lyrics to the third verse of the song on the board, or print them out for each student. Using this as a model, write a new verse for the song. Encourage the students to think about what *they* want to ask the planet. This can be done as a class, in small groups, or individually.



Ask the Planet

Ask the Planet 3

You got a problem?
Are you having doubts?
You got a question that you can't figure out?
You'll find an answer
Or two or four
All you got to do is step out your door and

Ask the planet
Pose a question to a posy
Ask the planet
Don't worry, it won't think you're nosey
Ask the planet
Ask the ocean or the prairie
Ask the planet
Something scaly, something hairy
Ask the planet
It's been here a really long time
Yeah the planet can help you with
Whatever's on your mind

How do I stay warm in the cold
and the snow? (ask a snowshoe hare)
How can I travel over the Gulf of Mexico?
How can I build a house under the sea?
(ask an abalone)
How do I get my friends to listen to me?

Ask the planet
Interview an ibex
Ask the planet
Take a lesson from a T-rex
Ask the planet
Ask the tundra or the desert
Ask the planet
Something slimy, something feathered

Ask the planet
It's been here a really long time
Yeah the planet can help you with
Whatever's on your mind

I want to stand out
I want to blend in
I want some time alone
I want to make friends
I want everybody to learn how to get
along
I want to sing my own special song

Ask the planet
Get a lecture from a lemur
Ask the planet
Get subliminal messages from your
femur

Ask the planet
Ask the swampland or savanna
Ask the planet
Maybe something that eats bananas

Ask the planet
It's been here a really long time
Yeah the planet can help you with
Whatever's on your mind

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Vocals – The Missoula Coyote Choir,
Amy Martin

Drums – Allison Miller

Bass – Todd Sickafoose

Keys – Julie Wolf

Guitar – Adam Levy

Trumpet – Tanya Darby

Also featured – elephant



**EMPOWERING
PEOPLE TO CREATE
NATURE-INSPIRED
SOLUTIONS FOR A
HEALTHY PLANET.**

The Biomimicry Institute is the world's leading non-profit organization dedicated to fostering innovation inspired by nature. It was co-founded in 2006 by biomimicry pioneer Janine Benyus to provide the tools and training necessary to help innovators, students, and teachers use nature as a model for sustainable solutions to humanity's greatest design challenges.

OUR PROJECTS:



AskNature is the world's most comprehensive catalog of nature's solutions to human design challenges. This award-winning website features thousands of inspiring natural phenomena, biomimetic design solutions, and biomimicry education resources. The inspiration and ideas offered by AskNature are facilitating the creation of radically innovative, sustainable products and services around the globe. Learn more at AskNature.org.



The **Biomimicry Global Design Challenge** is an annual competition that provides a platform for learning, practicing, and celebrating the skills of biomimicry. Each year the Institute selects the most promising entries from entrepreneurial teams and champions them through business training, mentorship, and monetary awards—including the \$100,000 Ray of Hope Prize™. Learn more at Challenge.Biomimicry.org.



EDUCATION

The Institute supports the integration of biomimicry into K-U formal and informal education by providing curriculum and training, creating opportunities for educators to connect and share best practices, and by working with leading education organizations to raise the profile of biomimicry both as a field of study and as a framework for project-based education that blends STEM and environmental literacy. Learn more at Biomimicry.org/Education



NETWORKS

The Institute advances biomimicry on a global scale by supporting the creation of networks focused on a specific region or discipline. The **Biomimicry Global Network** includes 36 regional and professional networks from 21 countries representing more than 12,000 students, educators, engineers, designers, biologists, chemists, and trained biomimicry professionals who are facilitating the adoption of the discipline globally. Learn more at Biomimicry.org/Global-Networks