How much poop do animal feeding operations produce?
a. 2x humans
b. 7x humans
c. 13x humans
d. 15x humans

What is the main river that feeds into the Gulf of Mexico?
a. Rio Grande River
b. Mississippi River
c. Arkansas River
d. Missouri River

Define Eutrophication.

Describe the effects of excess nutrients in places like the Gulf of Mexico.

What three states make up Chesapeake Bay?
A. Pennsylvania, Maryland, Virginia
B. Delaware, Rhode Island, Mississippi
C. New York, New Hampshire, New Jersey
D. Maine, Massachusetts, Connecticut

Globally, how much Nitrogen is NOT used for intended crops?
A. 1/4
B. 1/2
C. 2/3
D. 3/5

What causes a Red Tide?

What is an algae bloom and what are the consequences of them?

What was Bob’s role during the Citizen Science project?
a. Stared microscope 12 hours a day
b. Dugged up a lot of mud for sampling
c. Drew a lot of maps
d. The cook

How does algae blooms impact the environment?
a. Blocks the sun for other marine species.
b. Kills fish
c. Absorbs 02 in the ocean
d. All the above

Who can join the citizen science project?

What is a eutrophication?

What is the definition of hypoxic?
(short answer)

How do we deal with agricultural run off?
(long answer)

1. Excess nutrients that have runoff into the water is called what?
a. Eutrophication
b. Nitrification
c. Contamination

2. Eutrophication causes what?
a. Excess nutrients in the water
b. Overgrowth of algae
c. Oxygen depletion
d. All of the above

1. Briefly explain how Mississippi plays a role in the Northern Gulf Hypoxia zone.

1. Describe Chesapeake Bay and why the bay has been contaminated. Has the problem been solved? Which state has not been held responsible for their actions?

How long does eutrophication last?
a. Up to 10 years
b. Up to 2 years
c. Up to 5 years
d. 6 months

What is the percentage of antibiotics that were sold for use in feed and water?
a. 75%
b. 90%
c. 67%
d. 95%

Why is ammonia dangerous in high concentrations? (Name 2 reasons)

Name and explain 3 ways we can get infections from food.

1. Who was involved?
a. Scientists
b. Students
c. Retirees
d. All of the above

2. Which of the following are not Preliminary tasks?
a. Hustle funding
b. Prepare for sampling
c. Volunteer training
d. Watch documentaries

3. What is one reason that it worked?

4. What is citizen science?

What was the objective of the trip to Western Australia?
A. science
B. protection
C. Education
D. All of the above

When was Roebuck Bay and Eighty Mile Beach Designated as Marine parks?
A. 2020
B. 2008
C. 2026
D. 2016

What is one thing you learned about Roebuck Bay:

Explain what they did at Roebuck Bay and how they made a difference:

● True or False: In 2016, Roebuck Bay and Eighty Mile Beach became Marine
Parks

● Roebuck Bay is home to more than \_\_\_\_ species of bird
○ 12
○ 60
○ 100
○ 120

● How does studying invertebrates help us understand other organisms in an
environment, such as birds?

● How many years was research conducted at Roebuck Bay and 80 Mile Beach?

1. Which of the below is a strategy used to deal with cow poop?
a. Use as fertilizer
b. Treat like human waste
c. Use in construction
d. Treat like plastic waste

2. What is the primary danger of Red Tides?
a. Spooky color
b. Toxins that are released
c. Creates SOx
d. It’s an insecticide

3. What does eutrophication cause?

4. What is “Citizen Science”?

1. How much of China’s tax revenue was made from tobacco products?
a. 9%
b. 3%
c. 5%
d. 12%
e. 1%

2. The process of algae blooms turning a lake green is called
a. Algaefication
b. Grenification
c. Eukarotefication
d. Eutrophication
e. Natural cycle

3. What are the harmful effects of over application antibiotics in animal feedlots?

4. Explain the benefits of citizen science using Roebuck Bay and Eighty-mile beach as examples.

1). What is the migratory pattern that many migratory wading birds (from Australia, etc.) called?
a). Aussie-Bird Highway
b). Down-under Up-Abovers
c). East-Asian Australasian Flyway
d). Southern Hemisphere Avian Channel

2). What happens when we overapply fertilizers?
a). nutrients get into rivers, streams, etc. from runoff
b). algae blooms rapid growth and death
c). lakes become depleted in total O2
d). all of the above

3). What does it mean when something is hypoxic?

4). What is eutrophication, how is it caused, and what can we do about it?

1. What has been the major cause of nutrient run off into rivers, lakes, and the
ocean?
a. Overplanting of crops
b. Overapplication of fertilizer
c. Cows producing lots of fertilizer (Poop)
d. Poor storage of cow waste

2. What is it that makes the “Red tide” red in Florida?
a. Oil pollution
b. Floating cow poop
c. Algae
d. Dead fish

1. Explain what citizen science is. Who does it?

1. Explain what the project was the Professor Hickey did in Australia. What were some of the methods they used to gather their data? What was the result of their findings and research? Who got to participate?

What percentage of medically important antibiotics in the United States are used for agriculture?
- 50%
- 30%
- 70%

What is the accumulation of salt in soil called?
- Salinisation
- Sodiusation
- Sanitisation

How much applied Phosphorus is not used in agriculture?

What did you find most interesting about the East-asian Australia flyway study on 80-mile beach?

1) What is citizen science?
a) Citizens have an option to perform science for the state in exchange for reduced
criminal sentences
b) An effort to help science by encouraging amateur and even unskilled people to
participate in research gathering
c) A grassroots movement centered around rejection of mainstream science and an
emphasis on observable phenomena
d) A government initiative to get all citizens involved in science

2) What are some benefits of participating in citizen science?
a) Meet new people and establish new connections
b) Participate towards a goal that you can be proud of that benefits the community
c) Increase your scientific knowledge
d) All of the above

1) What is a short example of a citizen science project?

1) Give a description of the project Professor Hickey helped carry out in Roebuck Bay, Australia. How does this represent citizen science?

What is Eutrophication?

What can slow down the Eutrophication process?
a. Forest Buffers
b. Nutrient Management Planning
c. Consuming the runoffs
d. A and B

Which of these have yucky waters?
a. Chesapeake Bay
b. Florida
c. Gulf of Mexico
d. All of the above

What are forest buffers and how can they reduce Eutrophication? Explain
Eutrophication and then explain a factor that ensures the effectiveness of forest buffers.