

Pop Quiz 1

1. 4 elements of science:

1. Methodology
2. Body of Knowledge
3. Application
4. Curiosity/Appreciation/Commitment

2. Define ecotourism

A form of tourism where the tourist's impact on the environment is low, they actively appreciate nature, and they help conservation efforts by putting money into the economy.

3. Define biodiversity

Biodiversity is the way animals interact with their environment and each other.

4. Two sea turtle websites:

www.cceturtle.org

www.seaturtles.org

Pop Quiz 2

1. 2 species of poison arrow dart frog:

Dendrobates pumilio

Dendrobates auratus

bonus: are the tadpoles poisonous? Not at all

2. Briefly describe the copulation of the queen bullet ant

When the queen is born, she has wings. She mates with a male in the air, he dies, and she loses her wings. All of the fertilized eggs become female. If the queen needs males, she leaves some unfertilized eggs and they become male. She mates only once in her life.

3. A. Define parataxonomist

Parataxonomist - a layperson who has been trained to collect and identify specimens and tell where they came from. This person stays in the field for long periods of time.

B. Name 3 collection methods

1. Use a butterfly net
2. Use a blue and white light
3. Use alcohol and a tent (malaize trap)

4. A. What is bioprospecting?

Bioprospecting is searching for and discovering plant and animal species that may be useful to make new chemicals or drugs.

B. Name one partnership: Merck and InBio

C. Describe the process to manufacture a new drug:

1. Do research with new possibilities
2. Pick one plant or animal (narrow it down)
3. Try to formulate a new chemical
4. Put it through trials
5. Produce the drug

This process can cost \$360 million and can take 20 years.

Starts with about 20,000 possibilities and they have to narrow it down to one.

Costa Rica spends about \$18 million on drug production each year.

5. Define biosphere, biome, ecosystem, and species

species = organisms that can reproduce together

ecosystem = collection of different species that interact with each other and their world

biome = extensive geographical regions determined by environmental factors (temperature, elevation, rainfall, etc.)

biosphere = combination of all living organisms and the place that gives them what they need to survive.

Bonus:

What is the new product being produced by InBio?

It is a nematicide to kill nematodes, or flatworms.

Pop Quiz 3

Bonus: Was the soil from the plant that we saw acidic or basic? Basic

1. How many ecosystems are there worldwide and in CR?

16 worldwide

12 in Costa Rica

2. How much of CR's forests are protected? How much of that is primary forest?

25% protected

15% primary forest

3. Name CR's 3 main crops in order and where they originally came from

1. Bananas - Asia

2. Coffee - Kenya

3. Sugar cane - New Guinea

4. What kind of forest does coffee have to be grown in?

Pre-montane forest - 4500 ft. cutoff

5. What is the body of water we passed?

The Gulf of Nicoya

Bonus: What are the 2 leaf positions we discussed?

1. Opposite

2. Alternate