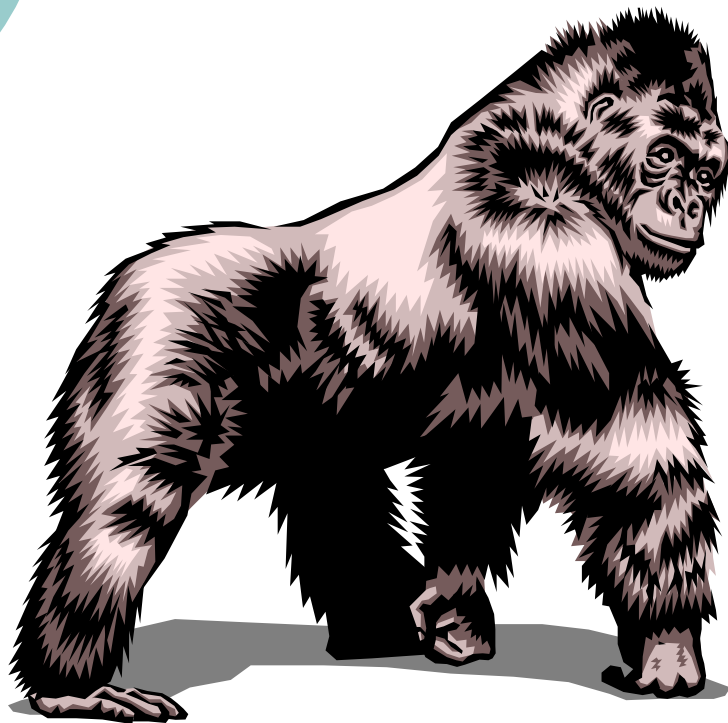


APES year in review



**2019, the year
everyone gets a
3 or better and
lots get a 5!**

MC Tips (90 min, 80Q's, 60% of score)

- Read questions carefully
 - Know what they are asking for
 - Watch out for “all of the following except questions” and “which of the following is not”
- If the question asks you to approximate
 - Round values to simplify calculation
 - Rule out answer choices by order of magnitude
- If you must guess, eliminate as many answer choices as possible first
 - Answer all questions, no penalty for guessing

FRQ Tips (70 min, 3 essays, 40% of score)

- Don't panic! Be methodical.
- Respond to each part of the question independently
 - Start a section by labeling the part you are responding to (a, b, c, etc)
 - Leave two or three lines between sections after each response
 - Be as neat as you can
 - Don't waste time restating the question

FRQ Tips

- Identify question requirements
 - List, describe, cause and effect
- If asked for a specific number of something, only give that many.
 - examples, reasons, effects, etc.
 - No others will be graded
- If anything more than “identify”, write 2 or more sentences
 - 1st – state your clear, specific, answer
 - 2nd – provide evidence, examples, detailed elaboration

FRQ Tips

- If a fourth Grader could say it, it is too vague.
 - If you find yourself saying something vague, follow up with a specific example
 - Name a chemical/species/law/practice that illustrates what you are saying
- Be careful with absolutes
 - Will it really kill all of the animals?
 - Will the entire ecosystem be harmed?
- Don't contradict yourself or the question

Math FRQ's

- Do all of your work on the answer document, not in the booklet
- Even if you can do all of the math in your head, show each step, especially your set up
- Include units in each step and in the final answer
 - Units analysis / dimensional analysis (what do they want me to find?, what do I know?)
- Does the answer make sense?
 - A monthly household energy bill should not be \$1,876,100.00

Non-Math FRQ's

- Be neat and legible
 - Always use complete sentences
 - Be organized and comprehensive, no outlines
- Explain technical terms, demonstrate understanding, Don't just name drop.
- Drawings are only acceptable if a written description linked to what is drawn
- Remember the parts of an experiment
- No eco-babble, flowery phrases, or vague phrases



Vague Terms / Phrases to Avoid

- “Bad/good for the environment”
- “Cause environmental problems”
- “Leads to pollution” or “will pollute”
- “Changes” (increase, decrease is better)
- “Destroy/disrupt/disturb/degrade the environment”
- “restore the environment”
- “Harmful chemicals”
- “cleaner environment”
- “sustainable” (without elaboration)
- “Toxins/pollutants/chemicals/health effects” (without specifying)



Examples of Eco-Babble

- “Runoff from farms can reduce water quality and harm the environment”
 - “Runoff from farms can introduce nutrients such as nitrogen and phosphorous to the water, leading to eutrophication and the decrease in dissolved oxygen which results in reduced species diversity in the stream”
- “Relying on fossil fuels is harmful to the environment”
 - ?

Math Tips

- Review Population math, energy math, and half lives
- Be proficient with unit analysis
 - Volume (m^3) can be calculated by area (m^2) times depth (m)
 - Mass (g) from concentration (g/l) of a known amount of solution (l)
 - Helps determine values not stated directly in problems
- Know simple, common conversion factors and metric prefixes.
- Be comfortable with scientific notation



Graphing Tips

- If data is presented in paragraph form, create a quick data table first
- Create axis scales that increase by equal increments
- Connect the dots unless told to draw a smooth curve
- Be able to interpolate and extrapolate
- Include titles, keys, and labels when not given in problem



Overall Goal

- Understand how natural world works
- Understand how human systems interact with natural system
- Accurately determine environmental problems
- Develop and follow a sustainable relationship with natural world