

Houghton Mifflin Harcourt Response to Written Comments from Becky Berger

Below are the HMH responses to each of the specific comments about HMH Environmental Science received from Becky Berger on November 21, 2013.

1. It addressed violence and malnutrition as absolute results of drought caused by global warming. It never mentioned global cooling which is the other part of the climate cyclical phenomenon and should not be insinuated into the science portion of education. There is drought in many parts of the world and violence is not an absolute result of that condition.

HMH Response: The discussion of malnutrition and violence on p. 382 has absolutely no connection to global warming. The text states that "Malnutrition today is largely a result of poverty and violence." This discussion is in the context of challenges to assuring an adequate world food supply.

2. Pictures of holes in the Ozone depicted the hole expanding but the picture dates stop in the year 2000 and scientists have reported and showed recent (2000-2013) pictures of the same Ozone layer healing and the hole decreasing in size.

HMH Response: We agree that including a more recent image of the ozone hole would be an appropriate revision.

3. Depicts population maps overlapped with erosion problems failing to point out the topography and geologic structures in the same areas that are especially prone to erosion irrelevant to population density.

HMH Response: It is unclear which specific map the testifier is referring to. The Soil Erosion map (Figure 2.3 on p. 386) uses color coding to indicate the level of vulnerability to water erosion; these regions may appear to have some correlation to population, but they are not based on population data. In addition, the Teach from Visuals note in the Teacher Edition suggests that teachers ask students to discuss why these areas are vulnerable, and suggested responses include "naturally poor soils, sloping landscapes, deforestation, agricultural mismanagement, and/or successive droughts."

4. There is a isolated box that states hydraulic fracturing might harm water wells in the area of fracking activity in direct contradiction to the EPA statement that no evidence of hydraulic

fracturing contaminating groundwater has been found.

HMH: We will review the EPA statement and other studies and make an appropriate revision.

5. This "techbook" gives absolute outcomes on environment, air quality, economic destabilization, necessity for taxation based on data, studies and information that is old and has been deemed incorrect, absolutely false and partially true.

HMH Response: We cannot respond to this generalization.

6. The suggest that there would be a \$1500 per year decrease in everyone's energy bills if they just install energy efficient windows. That is absurd and cannot be proven to be true since many homes already have them and individual households use differing amounts of energy depending on the number of people in the home, age brackets and number of appliances.

HMH Response: This description misrepresents the content on page 470. The text actually states that "the average household in the United States spends more than \$1,500 on energy bills each year" and later states that "replacing old windows with new high-efficiency windows can reduce your energy bill by 15 percent." This 15 percent would be \$225 not \$1,500. This is an average number that clearly does not apply in every case. The wording also makes clear that is assumes replacing old windows not ones that are already high-efficiency.

7. Using one scientist's estimation of kilowatt savings and endorsing ENERGY STAR products is not only inappropriate it is lacking scientific testing on a broad scale.

HMH Response: This Teacher Edition note does not endorse Energy Star products but accurately states that these produces can reduce or eliminate phantom loads. We will research the data on phantom loads and make a revision to the estimate if appropriate.

8. Connecting to math from the teachers edition makes an invalid assumption that Germans use less water than United States citizens and thus the US should save more water through green technology.

HMH Response: This Connect to Math on page 470 is about usage of gasoline not water and is based on data not an assumption. We will review the most current available data and make a revision

to the numbers if warranted.

9. RETEACH sections to change lifestyle choices in a science class have nothing to do with science. This has the potential for children to conflict with the lifestyles their parents have worked hard to afford for them and can create an argumentative situation in the homes that cannot afford to make major changes to their living conditions, which could result in psychological or self esteem problems of the students.

HMH Response: Environmental Systems TEKS 9J requires students to "research the advantages and disadvantages of 'going green'" including energy-efficient homes and appliances.

11. Offering alternative energy sources without full explanation of the negatives associated with them is an incomplete set of information for the students that leads to false conclusions.

HMH Response: The text does identify both advantages and disadvantages of alternative energy sources. In addition, Question 1 on p. 465 asks students to "List six forms of renewable energy, and compare the advantages and disadvantages of each."

12. Proposing mass usage of hydrogen gas for fuel is ignorant of the volatility of the gas and the explosive nature of this type of fuel which would endanger users. It is not ready for mass production.

HMH Response: The text does not propose mass usage of hydrogen gas for fuel and makes clear that hydrogen fuel is not ready for mass production. Under "The Challenge of Hydrogen Fuel" on page 468, the text states that hydrogen is a fuel of the future and not of today. It states that current methods of production are not efficient, and that tanks that can hold hydrogen safely under high pressure have not yet been developed.

13. Speaking of wind power as though it is the abundant, inexpensive and the solution to all of our energy needs is false, naïve and misleading. It takes 500 gallons of diesel fuel per month to START every 75 windmills that are used commercially produced electricity leaving a footprint and creating electricity with two forms of energy, fossil and wind, instead of just one. The text also fails to point out that wind energy is not reliable, and cannot be transported over great distances so often times it is generated in area with low population density.

HMH Response: The text on page 461 does not suggest that wind power is the solution to all our energy needs. The text also explicitly states that "one of the problems of wind energy is transporting electricity from rural areas where it is generated to urban centers where it is needed."

14. Pictures of mining operations from the 1850's and the early 1900's are misleading toward the mining industry and misrepresenting how mining technology operates in current day.

HMH Response: Historical images are included in a feature about mining in the California gold fields. The chapter on Mining and Mineral Resources also includes several other images of contemporary mining technologies.

15. Presenting hybrid cars as an energy efficient alternative without presenting the excessive cost of the batteries that we have no place to dispose of when they no longer work.

HMH Response: We will add a note addressing the expense and disposal issues related to batteries used in hybrid cars.