Wipe Away the Tears: Minimizing the Effect of Acid Rain Answer Key

Acid rain is rain, or any precipitation, that is extremely acidic (contains high levels of hydrogen ions). As you saw from the pictures, it can be harmful to plants, animals and infrastructure. It is caused by the emissions of sulfur dioxide and nitrogen oxide.

Conservation efforts can often be categorized as *mitigation* versus *adaptation*.

MITIGATION OF ACID RAIN	ADAPTATION OF ACID RAIN
… finding a solution that *tackles the cause* of the acid rain	… finding a solution that helps humans, plants and animals *adjust* to the harmful effects of acid rain

For example, think about flooding. Many scientists claim we can expect to see an increase of flooding along shorelines as our climate changes. Here are two possible solutions:
1. Regulations should be put in place to prohibit building infrastructure along the coast.
2. Flooding has been linked to increased hurricane activity, which is also linked to global warming. This solution involves limiting greenhouse gas emissions to limit the effect of global warming.

Which is mitigation and which is adaptation? The first possible solution involves helping humans adjust to the flooding, therefore it is a type of *adaptation*. The second possible solution attempts to *mitigate* the effect of flooding by limiting flooding events themselves.

Now, Try to brainstorm some mitigation and adaptation techniques for acid rain!

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*** Answers may differ! These are just suggestions…

Mitigation:
- reduce harmful emissions that create acid rain – how?
    o Emission control on power plants and factories
    o Emission control on vehicles
    o Using more renewable resources for energy

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Adaptation:
- Frequently wash or clean structures or vehicles to limit the corrosive effect of acid rain
- Some plant leaves have adapted to acid rain – if the cells in the plants can pump out hydrogen ions faster, then they are adapting to acid rain.
- liming of lakes to prevent acid lakes

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