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| **Topic** | **Questions to research** | **Claim:** \* Narrow your questions to make one claim | **Evidence:**  | **Reasoning:** | **Solution:** *Design, Evaluate and/or Refine a Solution* | **Trade-off(s):** | **Product Choice:**Choose 1 product |
| *What human impact is an observable problem?* | *What do you want to know about this topic?* | *How does (topic) affect the environment?* | *What is your evidence that (topic) affects the environment?* | *Construct an explanation(s) (including data analysis/research) and apply scientific reasoning to link evidence to claim.* | *What solutions have already addressed this issue?**What ideas do you have?* | *What is the cost/benefit analysis of the issue and/or solution?* | * *newspaper article*
* *radio show (voice recording)*
* *video news report*
* *blog page*
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| Farming practices | How does farming affect the water quality?How does farming affect soil quality?Does farming destroy habitats?How does farming affect animal populations?Does pesticide use have an effect on the environment? | Farming affects soil quality | Erosion is visible; Soil nutrient quality is depleted; Dust Bowl; Soil erosion in S. Africa | Water runoff affects how much water is available for plantsSoil nutrients are required for plant survival. | Rotation of cropsRotation of grazing animalsNo till farmingIrrigation practices that minimize water runoff | Cost/benefit analysis of the use of different types of crops, different sources of irrigation, chemical vs organic options for weed and pest control |  |

**Human Impact Solution Cost/Benefit Analysis**

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| **Advantages of doing/using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****(Benefits or Rewards)** | **Disadvantages of doing/using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****(Costs or Risks Involved)** |
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| **Advantages of NOT doing/using \_\_\_\_\_\_\_\_\_\_\_\_\_ (Benefits or Rewards)** | **Disadvantages of NOT doing/using \_\_\_\_\_\_\_\_\_\_\_\_\_ (Costs or Risks Involved)** |
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