

Green Hydrogen Worksheet High School Appropriate

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Part 1: Building a Foundation
What is the primary process used to produce green hydrogen?
Hint: Think about the methods of hydrogen production.
○ A) CombustION○ A) Electrolysis
A) Fermentation
A) Distillation
Which of the following are renewable energy sources used in the production of green hydrogen?
Hint: Consider energy sources that are sustainable.
☐ A) Solar power
☐ A) Natural gas
A) Wind power
☐ A) Coal
Explain why green hydrogen is considered environmentally friendly.
Hint: Think about emissions and sustainability.

List two benefits of using green hydrogen over traditional fossil fuels.



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Hint: Consider environmental and economic factors.
1. Benefit 1
2. Benefit 2
Which gas is released as a byproduct during the electrolysis process of producing green hydrogen
Hint: Consider the chemical reactions involved.
○ A) Methane
○ A) Oxygen
A) Carbon Dioxide
○ A) Nitrogen
Part 2: Understanding and Interpretation
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What distinguishes green hydrogen from grey hydrogen?
Hint: Think about the sources of energy used in production.
○ A) Green hydrogen is cheaper to produce.
○ A) Green hydrogen uses renewable energy sources.
○ A) Green hydrogen is produced from coal.
○ A) Green hydrogen emits more CO2.
Which of the following statements about green hydrogen are true?
Hint: Consider the applications and benefits of green hydrogen.
A) It can be used as a fuel for vehicles.
Δ) It is always more efficient than fossil fuels
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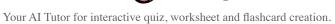
Hint: Think about local energy production and sustainability.



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Part 3: Application and Analysis	
f a city wants to reduce its carbon footprint, which of the following actions involving green hydrogen would be most effective?	
Hint: Consider actions that directly impact carbon emissions.	
A) Building more coal power plants	
A) Investing in hydrogen fuel cell vehicles	
A) Increasing natural gas imports	
A) Expanding oil refineries	
How can industries integrate green hydrogen into their operations?	
Hint: Think about the various applications of hydrogen in industry.	
A) Use it as a raw material in chemical production.	
A) Replace natural gas with hydrogen in heating processes.	
A) Use it to power electric grids during peak demand.	
A) Continue using coal for energy.	
Propose a strategy for a local government to promote the use of green hydrogen in public transportation.	
Hint: Consider policies, incentives, and public awareness.	
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Which factor is most likely to hinder the widespread adoption of green hydrogen?
Hint: Consider economic and technological barriers.
○ A) Lack of public interest
A) High production costs
○ A) Abundance of renewable energy
○ A) Government incentives
Analyze the challenges of using green hydrogen in the energy sector. Which of the following are valid challenges?
Hint: Think about infrastructure and technology.
A) High infrastructure costs
A) Limited renewable energy sources
A) Low energy density compared to fossil fuels
A) Lack of technological advancement
Examine the relationship between green hydrogen production and water resources. What are the potential impacts?
Hint: Consider water usage and sustainability.
Part 4: Evaluation and Creation
Which policy would most effectively support the growth of the green hydrogen industry?
Hint: Think about economic incentives and regulations.
○ A) Subsidizing fossil fuel industries
○ A) ImplementING carbon taxes
A) Reducing research funding for renewable energy

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A) Eliminating tariffs on oil imports
Evaluate the potential benefits of a global shift to green hydrogen. Which of the following are likely outcomes?
Hint: Consider environmental and economic impacts.
 A) Decreased global carbon emissions A) Increased reliance on fossil fuels A) Enhanced global energy security A) Improved air quality
Design a campaign to educate the public about the benefits of green hydrogen. What key messages and strategies would you include?
Hint: Consider target audiences and communication methods.