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Title: Energy Scavenger Hunt

Subject: Science

Grade levels: 6-12

Lesson Length: 50 min

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1 What type are most of your light bulbs in your home? **(Circle all that apply)**

HINT: If you don't know watch this video: <https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money>

- a. Incandescent
- b. Compact fluorescent light (CFL)
- c. Light emitting diode (LED)

2 How much money could you save by replacing the incandescent bulbs in your home?

HINT: Count up the total number of incandescent bulbs in your home, then use this light bulb calculator. If you don't know your electric rate, use \$0.13.

<https://www.alliantenergy.com/WaysToSave/SavingsTipsandPrograms/EnergySmartCalculatorsRES/LEDLightbulbCalculator>

3 DID YOU KNOW? SRP offers many different energy saving programs? **What is the “shade tree program”?**

https://www.srpnet.com/menu/savings/rebates_discounts.aspx

4. Where does MOST of the electricity in your community come from? (*check all that apply*) **HINT:** Enter your zip code into the EPA Power Profiler website to discover your region's fuel mix. <https://www.epa.gov/energy/power-profiler/>

solar nuclear
 natural gas hydro
 coal wind
 biomass other

5. Renewable resources power nearly _____ of Arizona's net electricity generation.

HINT: Read Arizona's State Energy Profile Analysis from the U.S. Energy Information Administration. <https://www.eia.gov/state/analysis.php?sid=AZ>

6. How much money could you save by replacing the refrigerator/freezer in your home?

HINT: Look inside the refrigerator itself to find the model's year and size (in cubic feet). Then use the ENERGY STAR® Flip Your Fridge Calculator to estimate savings.

<https://www.energystar.gov/index.cfm?fuseaction=refrig.calculator>

7. Name one reason why your household would consider purchasing an ENERGY STAR® certified appliance the next time you shop for appliances.

HINT: Learn about ENERGY STAR® certified appliances that help protect the environment. <https://www.energystar.gov/products/appliances>

8. What type of power plants are in your County (*check all that apply*)?

HINT: Turn on the 'All Power Plants' layer within the Arizona State Energy Profile Map and zoom in to your County. <https://www.eia.gov/state/?sid=AZ>

solar nuclear NO power plants exist
 natural gas hydro
 coal wind
 biomass other

9. How much energy does a school typically use? _____

HINT: <http://solarbyempire.com/solar-for-schools>

AND **where** did the first large scale solar field open in Arizona? _____

10. Who are your electric utility provider? (**Circle response**)

HINT: <https://www.canadatoarizona.com/wp-content/uploads/2019/05/arizona-power-companies.pdf>

- a. Arizona Public Service (APS)
- b. Salt River Project (SRP)
- c. Tucson Electric Power (TEP)
- d. Trico Electric Cooperative (TEC)

11. Who is your gas provider? (**Circle response**)

HINT: <https://www.canadatoarizona.com/wp-content/uploads/2019/05/arizona-gas-companies.pdf>

- a. Southwest Gas Corporation
- b. UNS Gas, Inc.
- c. Alliant Gas, Inc
- d. City of Mesa

12. DID YOU KNOW? Most homes and apartments can track household energy use and you can find out exactly how much energy is used every month. Locate your electric meter on your house with your guardian. Find what your total kWh read is currently.

HINT: <https://www.srpnet.com/electric/home/readmeter.aspx>

13. DID YOU KNOW? There is an ONLINE program that estimates how much energy you use with appliances in your home! <https://www.energy.gov/energysaver/save-electricity-and-fuel/appliances-and-electronics/estimating-appliance-and-home>

List the appliances in order from smallest to largest as to which uses the most energy in the chart to the right!

- a. Laptop computer
- b. Hair dryer
- c. Water heater
- d. Toaster
- e. Vacuum

Most
Least

14. Recommend ONE new way your household can save energy this week. **Watch this video to help you out!** <https://www.uwsp.edu/cnr-ap/KEEP/Pages/Resources/Energy-Scavenger-Hunt.aspx>

15. Based on what you have learned in the Energy Scavenger Hunt, complete the following sentences:

a. I was surprised to learn:

b. One idea I'm excited to further explore is:
