

Ancient and modern energy sources – student worksheet

Instructions: Complete these activities as a group. Appoint one person as your group's reader and another as the 'scribe' (writer). You may share the reading and writing duties around more than one person if you wish. Allocate 5 minutes of discussion time to answer each question.

Energy and the first Australians

Indigenous Australians used fire in a variety of ways – always valuing it as a powerful and essential natural resource.

1. What are THREE uses you think Indigenous Australians had for fire in past times? Discuss all your ideas within the group, then choose three ideas on which you can all agree.

(i) _____

(ii) _____

(iii) _____

In many Indigenous Australian traditions, the women tend the fire after the men light it. The knowledge of how to make fire was passed down through centuries of storytelling. Indigenous Australians used various methods for producing fire. The desert people used wedges of wood to ignite dry tinder (thin dried grass). They used a rapid sawing action to make enough friction to set the wood smouldering, then turn into flame. Other people used flints and pyrites (special stones that contain iron) to create sparks to make fire.

It wasn't easy to create fire by these methods, so the people carefully guarded and protected the fire until they moved camps. They carried lighted sticks (fire sticks) for hunting and making signal fires. Sometimes they even carried hot coals with them to a new place.

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2. What are the two most common methods of starting fires today? Unscramble the two answers.

stemach _____

trileghs _____

Many other uses for fire energy

Indigenous Australians used fire energy for many things other than just heat.

3. Decide which word from the word bank should go in each space in the text below. Ask your scribe to fill in the answers.

holes season land burn smoke rocks
fats signals animals fires resin

Indigenous Australians also used small, controlled _____ for many things – including hunting, clearing _____ and managing green waste. This technique was practiced in the cooler _____, and is known as ‘cool burning’. Fire was used to drive _____ into traps, pits and out of caves, _____ and trees. Fires were lit to send _____ to communicate with others. Fire was also used to straighten and condition some woods and vines. It was used to _____ spinifex grass to obtain sticky _____ and to shape wooden bowls. Medicines were made with plant material, animal _____, water, crushed _____ and ashes. _____ was sometimes inhaled for medicinal purposes.

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Energy and Modern Australians

Even today, fire means that many of the comforts of daily living are available to us. Although we use electricity these days, the ability to generate a flame is still an essential part of our lives.

4. Consider what uses your family make of flames at your house. List three.

(i) _____

(ii) _____

(iii) _____

Fire has other uses that may not be specifically relevant to your home, such as burning excess waste at the local dump and conducting controlled burns on rural properties.

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Energy for heat

It is generally agreed that electricity travelling in insulated wiring is a safer option to use at home than naked flame. Electricity has largely replaced the uses for raw fire in modern times.

5. Think about how your life at home would be affected if you had no 'hot' energy source like fire or electricity. Make a point form list of your ideas.

(i)

(ii)

(iii)

(iv)

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Energy for cooling

6. Your list probably includes 'heat and light' uses of electricity. But have you thought about the ways we use electricity for cooling? What are some household convenience devices that use electrical energy to cool things down? Can you think of four?

(i) _____

(ii) _____

(iii) _____

(iv) _____

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7. Think about the ways in which Indigenous Australians could have cooled things down.

Circle all the resources that might have been available throughout the Australian continent.

ice
snow
ice creams
insulated drink bottles
caves
wind
freezer

refrigerator
fan
holes in the ground
river water
sea water
shaded area

Esky
rockpools
air conditioners

8. It is very important that we take electrical and fire safety seriously. On spare paper, make a list of safety rules that we can use to reduce the hazard of a house fire that threatens lives and property. *Ensure that each member of your group has a turn at this task as your homework will require everyone to have their own list.*

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