

An Important Energy Source

For hundreds of years people have used wood, coal, gas, and oil to heat homes and water. Now these sources are running low. People must find more sources of energy. One source of energy is the sun.

Solar energy comes from the sun. The sun is a good source of energy. But the sun does not always shine, so its energy must be stored. People know how to store it.

Pick up a stone that has been in the sun. Hold it in your hand. Notice it feels warm, not cold. Stones store the sun's energy. Flat plates coated with black paint also hold solar energy. The color black soaks up the sun's rays. The plates hold the energy.

Solar energy works well in parts of the world where the sun shines most of the time. It can also be used in less sunny places if it is not the sole source of heat.



Quiz Questions

1. Fill in the blanks with words from the list below.

Wood, gas, oil, and _____ are all sources of energy, but these are not the
_____ sources of energy.

coal, home, most, sole

2. Fill in the blanks with words from the list below.

Energy from the sun is called _____ energy. We can use plates to
_____ up the sun's energy.

coat, soak, solar, stored

3. Fill in the blanks with words from the list below.

Some _____ can soak up the sun's energy, and we can also store solar energy in flat plates _____ with black paint.
coated, hold, sole, stones

4. Fill in the blanks with words from the list below.

We can _____ the sun's energy for days when the sun does not shine. We can use it to heat our _____.
holds, homes, solar, store

5. Why can't solar energy be the sole source of energy for homes everywhere?

Word List

| | | |
|-------|------|-------|
| solar | hold | stone |
| so | told | stove |
| also | cold | stoke |
| low | mold | store |
| slow | most | sore |
| stow | post | tore |
| know | host | more |

Blue Snake

No, the blue snake is not sad, as in "feeling blue." It is not "true blue" like a dog that is loyal to its master. Blue is its color. The blue snake has a unique blue-black hue. It lives in the southern part of the United States.

If you pursue a blue snake, it will flatten its neck. It will hiss and rattle its tail. Its hiss and rattle are clues that it might bite. This is just a ruse. A blue snake does not bite humans.



Snake charmers use blue snakes. They play a flute-like instrument. The snakes lift their heads and move back and forth. They seem to sway to the music. Blue snakes cannot hear. They get their cue to move from the movements of the charmer. Blue snakes are truly unusual snakes.

Quiz Questions

1. Fill in the blanks with words from the list below.

The blue snake is _____ by snake charmers. The charmers play instruments that look like _____.

cues, flutes, pursued, used

2. Fill in the blanks with words from the list below.

The blue snakes seem to sway to the _____, but really they get their _____ to sway from the movements of the charmers.

cues, hue, human, music

3. Fill in the blanks with words from the list below.

Blue snakes hiss and rattle to make us think that they will bite soon, but this act is just a

_____ . They do not bite _____ .

clue, humans, pursue, ruse

4. Fill in the blanks with words from the list below.

The blue snake's blue-black _____ is truly _____ .

clue, hue, ruse, unique

5. How do we know blue snakes do not move to the sound of music?

Word List

| | | |
|-------|------|-------|
| blue | use | human |
| true | muse | humid |
| clue | fuse | humus |
| rue | cue | mucus |
| ruise | cute | music |
| lute | hue | muses |
| flute | huge | fuses |

Dune Buggy

A dune buggy is a cute car. It has huge tires. The frame is made with tubular pipes. It uses gas for fuel. The fumes from the gas can be dangerous. Some of the colors used to paint dune buggies are red, blue, and green.

Dune buggies are used on ocean beaches. People drive on sand dunes near the ocean. Sand dunes are hills of sand. Don't refuse a chance to cruise in a dune buggy.



Using a dune buggy in the sand can ruin its engine. The engine should be tuned often. Also, the oil in the engine should be changed frequently. It is true that taking good care of a dune buggy will make it last longer.

Quiz Questions

1. Fill in the blanks with words from the list below.

It is fun to _____ in a dune buggy. People like to drive these cars on sand
_____ near the ocean.

cruise, dunes, tune, used

2. Fill in the blanks with words from the list below.

Dune buggies are _____ cars. They have _____ tires and
tubular frames.

cute, fume, huge, tune

3. Fill in the blanks with words from the list below.

Dune buggies use gas as _____. The _____ from this gas can
be dangerous.

cruise, dunes, fuel, fumes

4. Fill in the blanks with words from the list below.

People who _____ dune buggies on sand must get the engine
_____ often.

fume, true, tuned, use

5. What is one way dune buggies are different from most other cars?

Word List

| | | |
|------|----------|-------|
| true | cruise | tune |
| due | bruise | dune |
| Sue | juice | June |
| blue | sluice | jute |
| clue | suit | lute |
| glue | fruit | flute |
| flue | suitcase | brute |

Musical Instruments

The four kinds of musical instruments are wind, percussion, stringed, and brass. The flute is a wind instrument. It has a hollow tube. The tube has finger holes on the top. The flute plays a high tune.

Chimes are percussion instruments. Chimes are metal tubes of many sizes. They are hung in a wood frame. They ring like bells when hit. Chimes can play a true scale.

The ukulele and lute are stringed instruments. The ukulele looks like a small guitar. It has four strings. It is usually played for hula dancing. The lute is also like a small guitar. It has a small body and a thin neck. The instrument is light and fragile. It is seldom used today.

The tuba and bugle are brass instruments. The tuba has 18 feet of tubing. It plays low sounding music. The bugle is an instrument of few notes. Its main use is to communicate military messages.



Quiz Questions

1. Fill in the blanks with words from the list below.

Some _____ instruments are stringed instruments. The ukulele and the _____ have strings that can make musical sounds.

bugle, lute, musical, tubing

2. Fill in the blanks with words from the list below.

The _____ is a wind instrument that plays high tunes. It is a hollow _____ with finger holes on the top.

flute, tuba, tube, tune

3. Fill in the blanks with words from the list below.

The _____ is made of 18 feet of tubing. It plays low sounding _____.

bugle, music, musicals, tuba

4. Fill in the blanks with words from the list below.

Chimes are metal _____ hung on a wooden frame. They can play _____ scales.

flutes, true, tubes, tunes

5. How are the flute and the tuba different?

Word List

| | | |
|------|--------|--------|
| tube | flute | bugle |
| lube | lute | pupil |
| lune | ruse | cupid |
| tune | dupe | cubic |
| dune | ruble | putrid |
| due | tubing | future |
| true | lubing | menu |

Old Animal Friends

Did you know that goats are some of our oldest animal friends? People owned goats thousands of years ago. Goats, dogs, and sheep were probably the first animals people kept in their homes.

People today still own goats. These people must feed and care for their goats.

A goat has 24 molars. It can chew low-growing grasses. It also can chew corn, oats, and wheat. A goat chews its food only a little before it swallows it. Then a small amount of food is returned to the goat's mouth. This returned food is called a cud. The goat slowly chews the cud and swallows it again.

A female goat is called a doe. A doe makes milk that people can drink. Doe milk is also used to make butter and cheese. Goat cheese is known for its unique flavor.

A goat has a soft, fluffy coat. It is cozy to hold. A goat probably won't bite you. It might suck your fingers or your nose. If you hold a goat close, it will know you are its friend.



Quiz Questions

1. Fill in the blanks with words from the list below.

The _____ is one of our _____ animal friends.

coldest, goat, oldest, slowest

2. Fill in the blanks with words from the list below.

Goats often have soft, fluffy _____. They have 24 _____.

coats, growing, molars, oats

3. Fill in the blanks with words from the list below.

People who _____ goats often feed them corn, wheat, and _____.

coats, cozy, oats, own

4. Fill in the blanks with words from the list below.

Goats eat _____ grass. They eat _____.

grow, low-growing, old, slowly

5. Why do goats make good pets?

Word List

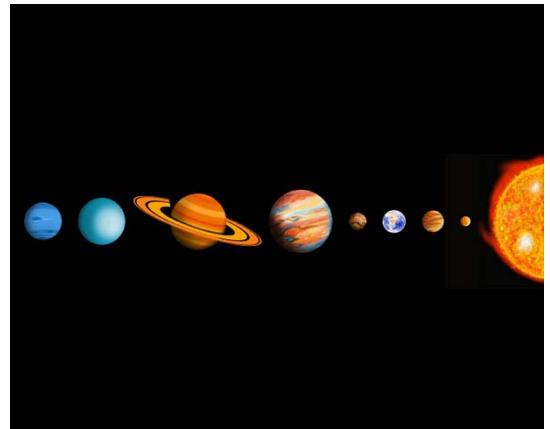
| | | |
|------|---------|------|
| goat | old | cozy |
| coat | told | nosy |
| oat | hold | nose |
| moat | bold | rose |
| most | boldest | row |
| post | coldest | grow |
| host | oldest | know |

Planets in Our Solar System

The universe is huge. Its stars and planets make solar systems. Our solar system has many planets. These planets circle our sun.

Neptune is a bright blue planet. Due to its distance from the sun, Neptune is very cold. Neptune is known for its strong winds.

Uranus is far from the sun too. This cold planet has a blue-green hue.



Saturn is a planet with unique rings. The rings are made of ice. Saturn also has other frozen fluids around it.

Jupiter is the largest planet. Strong storms take place on Jupiter.

Mars is close to Earth. This planet has huge volcanoes and craters. Just like Earth, Mars has seasons.

Earth is the only planet that is suitable for human life. Humans have lived on Earth for a very long time.

Venus is close to Earth too. This planet is very bright and has a circular orbit.

Mercury orbits close to the sun, so it gets very hot. This planet has lunar-like craters. Do you have a favorite planet?

Quiz Questions

1. Fill in the blanks with words from the list below.

Stars and planets of the _____ make up the solar systems. In our solar system, each planet is _____.
fluid, lunar, unique, universe

2. Fill in the blanks with words from the list below.

Mars has _____ volcanoes, and Mercury has _____-like craters.

fluid, huge, lunar, suitable

3. Fill in the blanks with words from the list below.

Neptune is a _____ planet, and the largest planet in our solar system is _____.

blue, humans, Jupiter, universe

4. Fill in the blanks with words from the list below.

Earth has had _____ living on it for a very long time. It is the only planet _____ for humans.

fluids, huge, humans, suitable

5. How is Earth different from all the other planets in our solar system?

Word List

| | | |
|---------|-----------|-------|
| lunar | suitable | huge |
| tuner | suitcase | hue |
| Pluto | playsuit | human |
| judo | jumpsuit | humus |
| Jupiter | fruitcake | humid |

future
fluid

jukebox
tunesmith

Neptune
circular

Space Flight

What would it be like to cruise in space? Space is not like Earth. Space is not safe for humans. People need life-support systems in space. They need space suits too.

There is no air in space. People need air to live. They must take oxygen on a space flight.

Temperatures are extreme in space. They can be very high or very low. People must use a thermal control system to keep the temperature right.

People need to eat on a space flight. The food must be easy to store, fix, and eat. Freeze-dried food works well. It is frozen food with the water removed.

Astronauts on early space flights ate freeze-dried food from plastic bags. They heated the food by poking a needle into the bag. Hot water went through the needle into the food. The water heated the meal. The astronauts squeezed the food out of a hole in the bag.

Later, astronauts ate off trays. But they needed to attach their trays to the space shuttle. If they didn't, their trays floated away.



Photo courtesy of NASA

Quiz Questions

1. Fill in the blanks with words from the list below.

People need life-support systems to take a space _____. They have to

_____ all they need on their spaceship.

flight, float, right, store

2. Fill in the blanks with words from the list below.

A thermal control system _____ temperatures _____ in space.

high, keeps, needs, right

3. Fill in the blanks with words from the list below.

People use freeze-_____ food during space _____.

dried, flights, heated, poked

4. Fill in the blanks with words from the list below.

People make food in space by _____ a needle in a bag of food, then putting in water to _____ the food.

freeze, heat, poking, storing

5. Why is space not safe for humans?

Word List

| | | |
|------|--------|--------|
| eat | dried | frozen |
| heat | tried | froze |
| neat | ties | freeze |
| need | tight | needle |
| weed | right | need |
| weep | fright | easy |
| keep | flight | ease |

The Coldest Place on Earth

Antarctica is a frozen land. It is the coldest place on Earth. You can find it at the bottom of the globe.

Antarctica is covered with ice and snow. This ice and snow holds the world's largest store of fresh water.

Iron ore and coal are found along the coast. People hope the iron ore and coal will be useful in the future.

Plant life grows only along the coast of Antarctica. Plants with deep roots will not grow there. Trees have deep roots, so trees do not grow there.

Penguins live in Antarctica. They go to the ocean to find food. Ice floes help them get close to their food. They ride on ice floes and float out from the coast. Then they catch animals from the ocean. Many whales and seals live in the ocean around Antarctica. The seals sun themselves while floating on ice floes.



Quiz Questions

1. Fill in the blanks with words from the list below.

Antarctica is the _____ place on Earth. It is a land of ice and _____.
coldest, globe, holds, snow

2. Fill in the blanks with words from the list below.

Antarctica _____ the world's largest store of fresh water. It also has large stores of iron ore and _____ along the coast.
coal, coasts, floats, holds

3. Fill in the blanks with words from the list below.

Plants can be found along the _____ of Antarctica. However, trees do not _____ on Antarctica.

coast, float, floes, grow

4. Fill in the blanks with words from the list below.

Penguins live in Antarctica. Sometimes penguins float on ice _____ in the ocean. You can find Antarctica by looking at the bottom of a _____.

coast, float, floes, globe

5. How do penguins get close to their ocean food?

Word List

| | | |
|-------|-------|-------|
| coal | floes | snow |
| goal | foes | show |
| goat | toes | slow |
| float | told | sow |
| boat | cold | sore |
| boast | fold | snore |
| coast | bold | store |

The Story of Stoves

The oldest known cookstove was made in China almost 2,000 years ago. It was made of cast iron. Melted iron was poured into a mold to make the stove. Then it was left to cool. This stove had a place in the middle to hold fire. It had four cooking holes. A hole bored in the back let out the smoke.

Cast iron stoves were also used in Europe. They were used to heat homes more than to cook food.

Americans made stoves of wood and clay to heat their homes. They also used cast iron stoves. Some stoves had chimneys that looked like poles. Some people used soapstone stoves. Stones stored the heat longer than cast iron.

The gas stove was first used in England in the 1820s. Gas stoves cost more than wood or coal stoves, so people were slow to use the gas stove. The electric stove was used in the 1920s. Now many people have gas stoves or electric stoves in their homes.



Quiz Questions

1. Fill in the blanks with words from the list below.

People use _____ for cooking food and heating _____.
holes, homes, soap, stoves

2. Fill in the blanks with words from the list below.

The cast iron stove is the _____ known stove. Later, _____ stoves stored heat longer using stones.
homes, oldest, poles, soapstone

3. Fill in the blanks with words from the list below.

The cast iron stove was made by pouring melted iron into a _____. It had four _____ for cooking.

holes, mold, pole, soapstone

4. Fill in the blanks with words from the list below.

The cast iron stove also had one hole in the back to let out _____. It had a place in the middle to _____ a fire.

hold, mold, poles, smoke

5. What is one way the stoves made in America were different from the stoves made in China?

Word List

| | | |
|------|-------|-----------|
| hole | smoke | soapstone |
| pole | spoke | loadstone |
| role | stoke | cookstove |
| mole | stove | stovetop |
| mold | store | holdup |
| hold | bore | toehold |
| old | more | toenail |

The Wildebeest

A gnu is a kind of antelope that lives in Africa. It is sometimes called the wildebeest. There are two species of gnus.

The common gnu is also known as the blue gnu. It can grow to be between four and five feet high, and can weigh up to five hundred pounds. It is brown or blue-gray and has dark stripes around its front end. The gnu also has horns, a beard and a tail.

The gnu is usually a mild animal. It lives in a small herd most of the time. Sometimes a herd goes to find new grassy places to feed.

The female gnu usually has one calf each year. The calf can stand when it is just minutes old. Soon it is walking beside its mother.

The white-tailed gnu is much smaller than the other wildebeest. This gnu was hunted nearly to extinction. For a while, there were not any left in the wild.



Photo by Chad Rosenthal

Quiz Questions

1. Fill in the blanks with words from the list below.

A _____ gnu weighs up to _____ hundred pounds.

between, blue, five, kind

2. Fill in the blanks with words from the list below.

Gnus have horns, beards, and a _____. They stand up to five

_____ high.

feet, old, tail, times

3. Fill in the blanks with words from the list below.

A gnu is usually a _____ animal. A herd of gnus _____ grassy places to feed.

finds, grows, main, mild

4. Fill in the blanks with words from the list below.

A gnu calf walks _____ its mother. It can stand when it is just minutes _____.

beside, between, goes, old

5. What are the names of the two species of gnus?

Word List

| | | |
|-------|-------|-------|
| feed | wild | goes |
| freed | child | foes |
| greed | chive | fold |
| greet | hive | mold |
| fleet | five | old |
| feet | find | own |
| beet | kind | known |

Valley of Ten Thousand Smokes

Katmai National Park and Preserve is in Alaska. It is a huge park. There are 15 volcanoes there. They are part of a ring of fire. This ring is a zone of volcanic action.

One time a volcano in this ring fired for three days. It filled a valley with smoke, fumes, and ash. After that time, this valley was named the Valley of Ten Thousand Smokes.

People like to visit Katmai and see the Valley of Ten Thousand Smokes. But the valley is no longer filled with smoke. People can hike there and see blue lakes. They can see icy glaciers, waterfalls, and caves.

There are many other sights to see at Katmai as well. People can see huge mountains. They can see islands off the coast. Katmai is also home to many kinds of animals and birds. Moose and eagles are everywhere. Some of the biggest bears in the world have been seen at Katmai.

Katmai National Park and Preserve is a beautiful park. Would you like to see such a place?



Quiz Questions

1. Fill in the blanks with words from the list below.

The Valley of Ten Thousand Smokes is in a _____ of volcanic action. It is part of a ring of _____.

coast, fire, fume, zone

2. Fill in the blanks with words from the list below.

The valley is a _____ park. It has waterfalls and islands off the _____.

coast, fired, hike, huge

3. Fill in the blanks with words from the list below.

Katmai Park is _____ to 15 volcanoes. Once these volcanoes fired for days, filling the valley with smoke and _____.
fumes, home, huge, time

4. Fill in the blanks with words from the list below.

Park visitors might also see _____ mountains. They might _____ to see blue lakes.

hike, home, huge, zone

5. How did the Valley of Ten Thousand Smokes get its name?

Word List

| | | |
|------|-------|-------|
| fire | wild | fumes |
| tire | child | fuse |
| time | chive | muse |
| lime | hive | mute |
| lice | five | mule |
| ice | find | Yule |
| icy | kind | huge |

Woman of San Nicolas Island

Old stories had told of a woman who had been left on San Nicolas Island years ago. Was she still alive?

Then, in 1853, men landed on this island off the coast of California. They found a crude home made of whale bones. A woman was inside. She spoke words the men did not know. She was wearing a dress made of bird plumes.

The woman had lived alone on San Nicolas Island for 18 years. She caught fish and gathered roots to eat. To pass the time, she wove baskets and made friends with wild dogs.



The men brought the woman back to the mainland with them. She ate fresh fruit and other foods. Many people came to greet her. The woman seemed happy to be with people again. Sadly, she died just seven weeks after her rescue.

The people she met would never forget her. Many told her story. Scott O'Dell even wrote a book based on her time at San Nicolas Island. It is called *Island of the Blue Dolphins*.

Quiz Questions

1. Fill in the blanks with words from the list below.

On an island in 1853, men found a _____ home with a woman inside. She _____ words the men did not know.

crude, fruit, spoke, wove

2. Fill in the blanks with words from the list below.

The woman lived in a _____ made of _____.
bones, crude, home, plumes

3. Fill in the blanks with words from the list below.

The woman _____ a dress made of bird _____.

bones, fruit, plumes, wore

4. Fill in the blanks with words from the list below.

The woman had lived _____ on the island for 18 years. She had

_____ friends with wild dogs.

alone, home, made, spoke

5. What things did the woman have to do to survive alone on the island?

Word List

| | | |
|-------|-------|-------|
| made | wild | fruit |
| fade | child | flute |
| fame | chive | lute |
| tame | hive | jute |
| tale | five | Jude |
| hale | find | rude |
| whale | kind | crude |