



O	D	I	S	L	M	W	S	O	D	T	U	L	F	T	P	E	W
H	X	G	T	C	I	R	T	D	I	R	S	E	R	C	D	A	E
E	A	Y	P	A	P	A	H	T	O	S	D	T	E	A	B	K	G
G	M	J	G	C	O	O	M	E	C	O	L	N	A	T	H	E	M
R	E	M	T	E	M	E	R	D	H	Q	F	U	T	T	E	R	A
N	G	A	L	L	N	T	W	T	P	W	O	E	K	U	V	L	N
N	P	G	K	C	A	R	A	B	A	E	G	O	L	I	F	Y	S
K	P	E	O	O	O	C	T	H	A	B	T	E	P	O	T	B	N
A	Q	E	F	M	E	T	H	A	N	O	L	C	N	I	H	H	R
L	U	C	P	W	E	G	S	O	O	M	E	E	R	E	N	W	U
C	L	A	R	P	A	G	M	C	D	L	V	A	P	A	R	W	I
A	G	R	E	I	E	T	A	P	E	R	L	P	R	O	E	G	H
T	O	L	L	U	T	R	R	W	J	C	Y	O	X	G	W	V	Y
A	R	O	C	C	E	X	I	I	A	M	S	A	E	U	A	E	D
L	S	C	G	R	M	B	J	D	M	T	N	S	A	S	R	C	R
Y	E	Z	E	L	D	I	N	T	G	A	T	O	R	A	T	W	E
S	P	F	M	O	V	O	O	L	L	E	C	L	E	U	F	L	T
T	H	O	R	V	H	G	C	Y	K	L	F	I	L	O	R	K	A
S	O	X	Q	B	L	A	C	S	N	E	O	A	R	L	E	A	N
D	S	Y	Y	C	H	S	F	E	E	E	R	C	R	L	Z	O	o
Y	P	U	H	G	I	W	D	N	P	U	K	O	T	M	Y	G	B
J	H	Y	D	G	N	E	A	H	S	F	L	P	A	O	L	T	R
L	O	N	A	O	O	H	U	T	B	B	I	W	H	G	O	F	A
Y	R	S	D	L	T	L	T	S	E	I	F	Q	Z	I	R	Q	C
D	I	L	S	I	S	Y	D	R	M	R	T	A	L	P	T	U	N
Q	C	I	G	R	R	E	E	N	L	O	O	N	Y	Z	C	M	O
G	A	T	K	Q	K	O	C	O	C	A	C	O	L	A	E	T	T
A	C	O	L	W	E	J	M	N	A	N	U	N	T	J	L	K	L
H	I	R	L	I	F	E	R	H	M	D	E	O	C	T	E	O	O
A	D	C	I	F	T	V	F	H	Y	D	R	O	G	E	N	K	M
M	M	A	S	V	E	U	O	R	O	G	O	C	U	I	Z	F	A
W	I	C	A	R	E	N	E	W	A	B	L	E	O	W	P	S	N
M	S	H	I	C	O	C	H	O	I	L	L	C	M	A	L	I	B
Z	W	Z	T	O	S	T	P	L	F	L	I	R	O	B	O	G	E
O	O	D	Y	W	H	O	S	O	L	I	D	O	X	I	D	E	L
N	G	Y	X	O	P	P	E	R	I	Z	E	S	B	A	P	E	M

Hydrogen
Anode
Cathode
Catalyst
Energy
Megawatt

Phosphoric Acid
Solid Oxide
Molton Carbonate
Portable Power
Electrolyzer
Pepperidge Farm

Methanol
Wegmans
Oxygen
Fuel Cell

Forklift
Coca-Cola
Whole Foods
Honda Clarity
Renewable

Water
PEM
Biogas
Verizon

Check out the Fuel Cell Career and Education Center at:
<http://www.fuelcells.org/ced/education.html> for great information for teachers and students.



All the answers to these questions can be found at www.fuelcells.org

1. Atom used as an input to a fuel cell: _____
2. The electrode that hydrogen is fed into. In a fuel cell it is the negative pole: _____
3. The electrode that oxygen is fed into. In a fuel cell it is the positive pole: _____
4. A substance that changes the conditions under which a chemical reaction will take place. _____
5. One of the outputs of a fuel cell. _____
6. A unit of power. Many stationary fuel cell systems produce this much electricity. _____
7. A type of fuel cell that operates at higher temperatures, and can use impure hydrogen as a fuel. Used in the Whole Foods Market, UTC Power fuel cell. _____
8. A type of fuel cell that operate at very high temperatures. These are great for stationary applications. _____
9. A type of fuel cell that can use a variety of input fuels. _____
10. Fuel cell application used primarily for personal electronics and military applications. _____
11. A device that splits water into its component atoms, hydrogen and oxygen. _____
12. Bet you didn't know, but this company not only makes a great fish-shaped snack cracker, but also uses fuel cells to provide green power for their bakery. _____
13. The simplest chemical alcohol. Also makes a great input fuel for fuel cells that don't require an electrolyzer. _____



14. This grocery chain uses fuel cells for their materials handling equipment at their Pottsville, PA facility.

15. Input to a fuel cell, often obtained from the outside air.

16. A family of electrochemical devices, that use hydrogen and oxygen as inputs to create electricity.

17. Many of these specialty vehicles have been equipped with fuel cells in recent months. Warehouse operators love how the fuel cells save time and money.

18. This beverage company is using fuel cells to meet its own goal of reducing its carbon emissions by 20%.

19. This grocery chain liked their first stationary fuel cell so much, they installed a second one in a new store.

20. New York World Auto Show named this fuel cell vehicle Green Car of the Year in 2009. It will be leased to select counties in California in 2010.

21. Energy generated from naturally occurring sources is said to be:

22. One of the outputs of a fuel cell.

23. A common type of fuel cell. Operates at low temperatures, and has a high power density, making it ideal for many types of applications.

24. Input fuel for molton carbonate fuel cells, it is derived from the breakdown of organic materials.

25. This telecommunications company is using fuel cells to power data centers, ensuring data is never lost due to power outages.

Solution

o	d	i	s	l	m	w	s	o	d	t	u	l	f	t	p	e	w
h	x	g	t	c	i	r	t	d	i	r	s	e	r	c	d	a	e
e	a	y	p	a	p	a	h	t	o	s	d	t	e	a	b	k	g
g	m	j	g	c	o	o	m	e	c	o	l	n	a	t	h	e	m
r	e	m	t	e	m	e	r	d	h	q	f	u	t	t	e	r	a
n	g	a	l	l	n	t	w	t	p	w	o	e	k	u	v	l	n
n	p	g	k	c	a	r	a	b	a	e	g	o	l	i	f	y	s
k	p	e	o	o	c	t	h	a	b	t	e	p	o	t	b	n	
a	q	e	f	m	e	t	h	a	n	o	l	c	n	i	h	h	r
l	u	c	p	w	e	g	s	o	o	m	e	e	r	e	n	w	u
c	l	a	r	p	a	g	m	c	d	l	v	a	p	a	r	w	i
a	g	r	e	i	e	t	a	p	e	r	l	p	r	o	e	g	h
t	o	l	l	u	t	r	r	w	j	c	y	o	x	g	w	v	y
a	r	o	c	c	e	x	i	i	a	m	s	a	e	u	a	e	d
l	s	c	g	r	m	b	j	d	m	t	n	s	a	s	r	c	r
y	e	z	e	l	d	i	n	t	g	a	t	o	r	a	t	w	e
s	p	f	m	o	v	o	o	l	l	e	c	l	e	u	f	l	t
t	h	o	r	v	h	g	c	y	k	l	f	i	l	o	r	k	a
s	o	x	q	b	l	a	c	s	n	e	o	a	r	l	e	a	n
d	s	y	y	c	h	s	f	e	e	e	r	c	r	l	z	r	o
y	p	u	h	g	i	w	d	n	p	u	k	o	t	m	y	g	b
j	h	y	d	g	n	e	a	h	s	f	l	p	a	o	l	t	r
l	o	n	a	o	o	h	u	t	b	b	i	w	h	g	o	f	a
y	r	s	d	l	t	l	t	s	e	i	f	q	z	i	r	q	c
d	i	l	s	i	s	y	d	r	m	r	t	a	l	p	t	u	n
q	c	i	g	r	r	e	e	n	l	o	o	n	y	z	c	m	o
g	a	t	k	q	k	o	c	o	c	a	c	o	l	a	e	a	t
a	c	o	l	w	e	j	m	n	a	n	u	n	t	j	l	k	l
h	i	r	l	i	f	e	r	h	y	d	r	o	g	e	e	o	o
a	d	c	i	f	t	v	f	h	y	d	r	o	g	e	n	k	m
m	m	a	s	v	e	u	o	r	o	g	o	c	u	i	z	f	a
w	i	c	a	r	e	n	e	w	a	b	l	e	o	w	p	s	n
m	s	h	i	c	o	c	h	o	i	l	l	c	m	a	l	i	b
z	w	z	t	o	s	t	p	l	f	l	i	r	o	b	o	g	e
o	o	d	y	w	h	o	s	o	l	i	d	o	x	i	d	e	l
n	g	y	x	o	p	p	e	r	i	z	e	s	b	a	p	e	m



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A C I D
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C A R B O N A T E
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P O W E R
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R
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F A R M
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