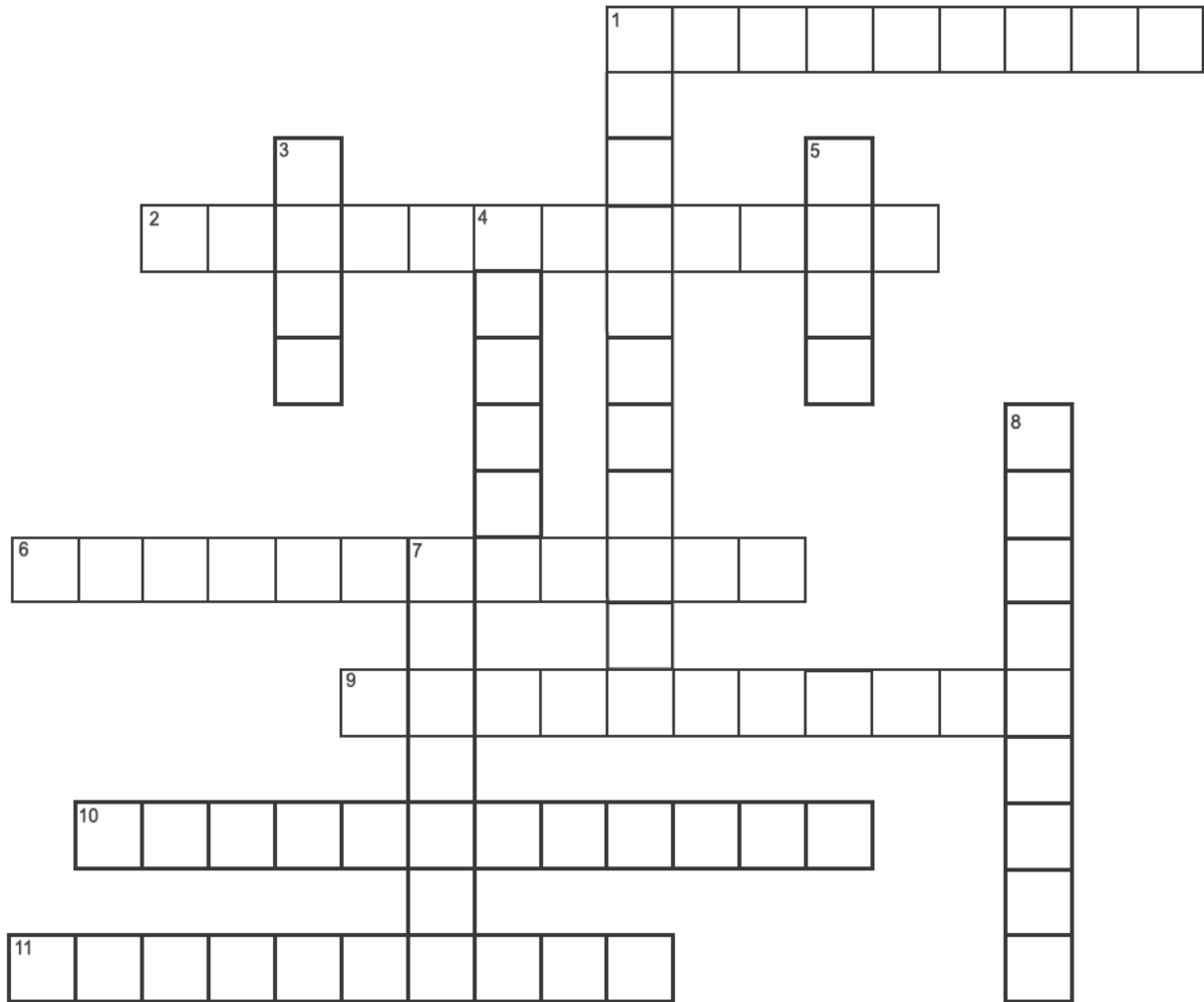




Electricity Crossword



ACROSS

1. Electricity is a ____ source of energy.
2. ____ lines send electricity over a nationwide network.
6. A ____ is the amount of energy used in one hour by ten 100 watt light bulbs.
9. Electricity is sent to a ____ that "steps up" the voltage.
10. ____ lines deliver electricity to your home.
11. Thirty-five percent of the fuel is converted into electricity. This is called the ____ of the power plant.

DOWN

1. ____ are small buildings containing transformers and electrical equipment.
3. A ____ is a measure of the electric power an appliance uses.
4. A ____ is found in a generator and motor.
5. ____ is the fossil fuel that makes the most electricity.
7. High pressure steam turns the blades of a ____.
8. A ____ houses magnets and a spinning coil of copper wire.



Famous Names in Electricity

The sentences below refer to famous scientists and inventors from The History of Electricity section of your infosheet. Read the sentence. Next, write the last name of the scientist or inventor in the squares and circles. Unscramble the letters in the circles to form the answer to the final statement.

1. First scientist to conduct an electric current by passing a magnet through copper wiring.

□ □ ○ ○ □ ○ □

2. In 1895, he opened a power plant that used AC power.

□ □ □ □ □ □ ○ □ □ □ ○ □

3. Many people believe he discovered electricity with his famous lightning experiment.

○ □ ○ □ □ ○ □ □

4. Using salt water, zinc, and copper, he created the first electric cell.

□ □ ○ □ ○

5. He invented the light bulb and opened the first electric power plant.

□ □ ○ □ □ ○

6. The first electric power plant able to transport electricity over 200 miles.

□ □ □ □ □ □ □ □ □ □ □ □



Electric Math

Match the following numbers with the statements below. You will use each number only once. Write the numbers on the lines to the left of the statements. Next, perform the mathematical operations indicated by each statement. Write your answers on the lines to the right of the statements.

9

120

1000

1882

1879

35

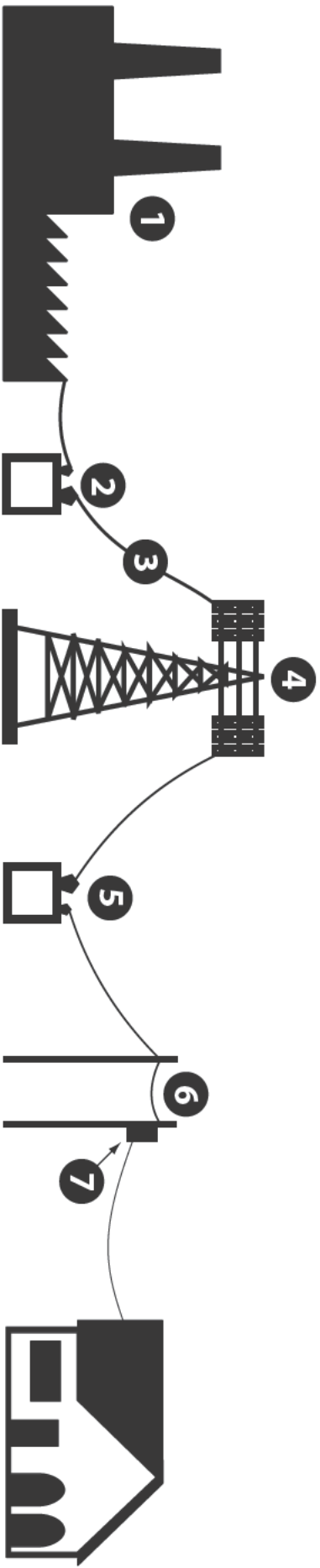
- _____ 1. Start with the voltage used to operate most household appliances.
- _____ 2. Divide this number by the cost, in cents, of a kilowatt-hour of electricity = _____
(Round number to nearest tenth.)
- _____ 3. Multiply this number by the average efficiency of a power plant = _____
(Round number to nearest tenth.)
- _____ 4. Add to this number the year the light bulb was invented = _____
(Record this number to nearest tenth.)
- _____ 5. Divide this number by the number of watts in one kilowatt = _____
(Round number to nearest tenth.)
- _____ 6. Multiply this number by the year Edison started his power plant = _____
(Record your answer to nearest tenth.)

ANSWER



Transporting Electricity

Explain what each of the components numbered below does to get electricity from the generator to the consumer.



1. Power plant:

2. Step-up transformer:

3. Transmission line:

4. Power tower:

5. Step-down transformer:

6. Distribution line:

7. Neighborhood transformer:



Measuring Electricity

Directions: Fill in the blanks in the tables below.

TABLE 1

VOLTAGE	=	CURRENT	X	RESISTANCE
1.5 V	=	_____ A	x	3 Ω
_____ V	=	3 A	x	4 Ω
120 V	=	4 A	x	_____ Ω
240 V	=	_____ A	x	12 Ω

TABLE 2

POWER	=	VOLTAGE	X	CURRENT
27 W	=	9 V	x	_____ A
_____ W	=	120 V	x	1.5 A
45 W	=	_____ V	x	3 A
_____ W	=	120 V	x	2 A

TABLE 3

APPLIANCE	POWER	=	VOLTAGE	X	CURRENT
TV	180 W	=	120 V	x	_____ A
COMPUTER	40 W	=	120 V	x	_____ A
PRINTER	120 W	=	120 V	x	_____ A
HAIR DRYER	1,000 W	=	120 V	x	_____ A

TABLE 4

POWER		TIME	=	ELECTRICAL ENERGY (kWh)	X	PRICE	=	COST
5 kW	x	100 h	=	_____	x	\$ 0.12	=	\$ _____
25 kW	x	4 h	=	_____	x	\$ 0.12	=	\$ _____
1,000 W	x	1 h	=	_____	x	\$0.12	=	\$ _____