Science/Ciencia

Roanoke City
PUBLIC SCHOOLS

Teacher Contact Information:
Información de contacto del profesor:

Family Learning Resources: Remote Learning Edition

Recursos de Aprendizaje Familiar: Edición de Aprendizaje Remoto

Science 6/Ciencias 6

Family Learning Resources: Remote Learning Edition

Roanoke City Public Schools

Winter 2026 - 5 Days of Resources

Content Areas Included

- English Language Arts
- Mathematics
- Science
- Social Studies

Objective

This document will provide families with remote learning resources in the four core content areas for the anticipated extended closure of schools due to inclement weather.

Recommendations for Usage

- These necessary materials focus on reinforcing previously learned concepts - no new materials are covered.
- Students should be able to complete with minimal adult assistance. However, discussing the purpose and understandings from resources can help establish a deeper connection to the materials.
- Students are encouraged to write down questions that they might have about the materials so that they may be discussed with teachers.
- In addition to the completion of these materials, RCPS recommends that students take time to read - either independently or with others.

Questions & Follow Up Notes

Please do not hesitate to reach out to your student's teachers with any questions. These resources are designed to support remote learning during school closures and help minimize disruptions to instruction. **Students should bring this booklet with them when they return to school.**

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Recursos de Aprendizaje Familiar: Aprendizaje Remoto

Roanoke City
PUBLIC SCHOOLS

Invierno 2026 – 5 días de recursos

Áreas de contenido

- Lenguaje (Inglés)
- Matemáticas
- Ciencias
- Estudios Sociales

Objetivo

Este documento ofrece a las familias recursos de aprendizaje remoto en las cuatro áreas académicas principales, pensados para apoyar la continuidad educativa durante cierres escolares prolongados debido a las inclemencias del tiempo.

Recomendaciones de Uso

- Estos materiales necesarios se centran en reforzar conceptos aprendidos previamente - no se cubre material nuevo.
- Los estudiantes deberían poder completar las actividades con una asistencia mínima de un adulto. Sin embargo, conversar sobre el propósito y los aprendizajes de los recursos puede ayudar a establecer una conexión más profunda con el material.
- Se anima a los estudiantes a escribir las preguntas que puedan tener sobre los materiales para que puedan ser comentadas con los maestros.
- Además de completar estos materiales, RCPS recomienda que los estudiantes dediquen tiempo a la lectura, ya sea de manera independiente o con otras personas.

Preguntas y notas de seguimiento

Por favor, no dude en comunicarse con los maestros de su estudiante si tiene alguna pregunta. Estos recursos están diseñados para apoyar el aprendizaje remoto durante los cierres escolares y ayudar a minimizar las interrupciones en la instrucción. **Los estudiantes deben traer este folleto cuando regresen a la escuela.**

Science Grade 6 Day 1

1. Heat can be transferred through conduction, convection, and radiation. What is necessary in order for heat to be transferred by conduction?

- **A.** Heat must be transferred in the form of currents.
- **B.** Heat must be transferred through space.
- **C.** The objects must be in direct contact with one another.
- **D.** The substances must be liquids or gases.

2. Mildred takes a pound of frozen hamburger meat out of the freezer and puts it into the refrigerator.

Which of the following best describes the direction of heat flow?

- **A.** from the air in the refrigerator to the hamburger
- **B.** from the air in the freezer to the air in the refrigerator
- **C.** from the hamburger to the air outside the refrigerator
- **D.** from the hamburger to the air in the refrigerator

3. Which of the following is an example of heat transfer through conduction?

- **A.** a pan on the stove getting hot
- **B.** hot air rising inside a house
- **C.** a microwave warming a cup of water
- **D.** the Sun drying clothes hanging outside

4. Heat energy can be transferred from a source to a receiver by

I. radiation.
II. convection.
III. conduction.

- **A.** I, II, and III
- **B.** III only
- **C.** I only
- **D.** II only

5. Mario brings his hands near a fire and feels its warmth.

If the air around Mario's fireplace is still, most of the heat is reaching his hands through_____.

- **A.** condensation
- **B.** radiation
- **C.** conduction
- **D.** convection

6. Through which of the following ways does the Sun primarily transfer its heat energy to the Earth?

- **A.** radiation
- **B.** conduction
- **C.** reflection
- **D.** convection

Day 2

7. Heat is an exchange of internal energy from one system to another due to

- **A.** a temperature difference between the systems.
- **B.** one system being gas and the other being solid.
- **C.** the systems having the same temperature.
- **D.** one system being liquid and the other being solid.

8. A transfer of heat within a liquid or gas that involves warm particles moving in currents is

- **A.** conduction.
- **B.** convection.
- **C.** correction.
- **D.** connection.

9. Which of the following statements about radiation is true?

- **A.** Radiation is the only form of heat transfer that is experienced on Earth.
- **B.** Radiation is the only form of heat transfer that is not experienced on Earth.
- **C.** Radiation is the only form of heat transfer that can travel through the vacuum of space.
- **D.** Radiation is the only form of heat transfer that is unable to travel through the vacuum of space.

10. Heat is the transfer of_____energy.

- **A.** chemical
- **B.** thermal
- **C.** electrical
- **D.** mechanical

Day 3

Study Island

1.

What type of energy are the items in the picture designed to harness?

- **A.** electricity
- **B.** geothermal energy
- **C.** wind energy
- **D.** nuclear energy

2. A light bulb is turned on. It produces light and warms up. Which statement is true?

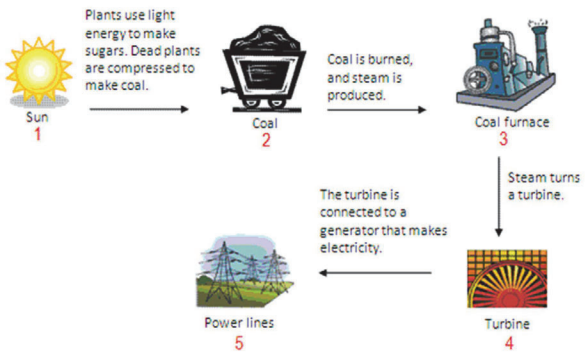
- **A.** Some of the electrical energy is transformed to light energy and some is destroyed.
- **B.** All the electrical energy is transformed to light energy.
- **C.** All the electrical energy is transformed to light energy and heat energy.
- **D.** All the electrical energy is transformed to heat energy.

3. Spinning wind turbine blades have kinetic energy. Wind turbines transform this energy into electric energy and heat energy in a closed sytem.

Which of the following statements about this energy transformation is true?

- **A.** All of the kinetic energy is transformed into electric energy and heat energy.
- **B.** All of the heat energy is transformed into electric energy.
- **C.** Half of the kinetic energy is transformed into electric energy and heat energy.
- **D.** Half of the heat energy is transformed into electric energy.

4.

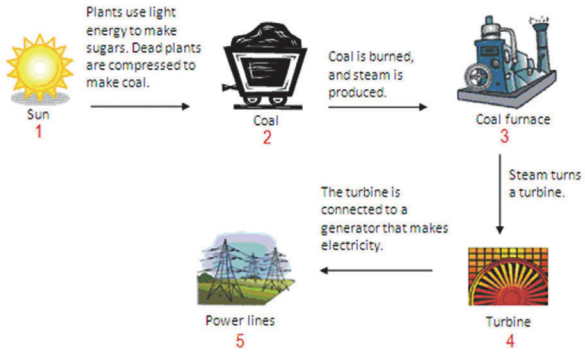


Between steps 3 and 4, the heat energy in the steam is converted to

- **A.** mechanical energy
- **B.** heat energy
- **C.** transitional energy
- **D.** electrical energy

Day 4

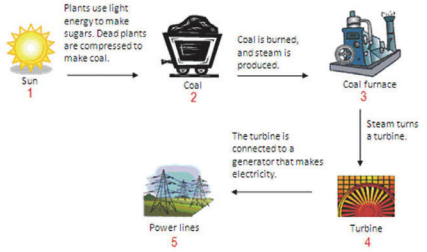
5.



Between steps 4 and 5, the mechanical energy of the turbine is converted to

- **A.** electrical energy
- **B.** transitional energy
- **C.** heat energy
- **D.** mechanical energy

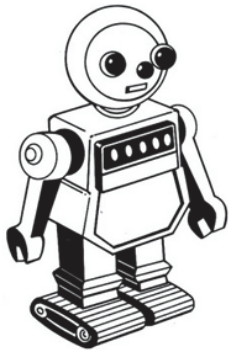
6.



Between steps 2 and 3, the chemical energy in the coal is converted to

- **A.** transitional energy
- **B.** mechanical energy
- **C.** heat energy
- **D.** electrical energy

7.



The motions of the toy robot shown above are driven by an electric motor. The power source for the toy's motor is a pair of batteries.

Based on this information, which of the following best summarizes the energy transformations taking place in the toy robot?

- **A.** Electrical energy is transformed into chemical energy, and the chemical energy is transformed into mechanical energy.
- **B.** Mechanical energy is transformed into light energy, and the light energy is transformed into electrical energy.
- **C.** Chemical energy is transformed into electrical energy, and the electrical energy is transformed into mechanical energy.
- **D.** Light energy is transformed into electrical energy, and the electrical energy is transformed into mechanical energy.

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8. Maya is playing the guitar. She strums the strings and the guitar produces noise. Maya is transforming_____energy into_____energy.

- **A.** electrical; sound
- **B.** electrical; mechanical
- **C.** mechanical; light
- **D.** mechanical; sound

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9. Into what kinds of energy does a toaster convert electrical energy?

- **A.** solar and chemical
- **B.** heat and chemical
- **C.** light and heat
- **D.** mechanical and light

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10. The wind turbines in the image below generate electrical energy, but they do not create energy.

Where does the energy harnessed by wind turbines come from?

- **A.** the electrical energy of a power plant
- **B.** the potential energy of the turbine blades
- **C.** the chemical energy of a battery
- **D.** the mechanical energy of air molecules

Day 5

1. An atom with an equal number of electrons and protons has no_____.

- **A.** charge
- **B.** reactivity
- **C.** neutrons
- **D.** weight

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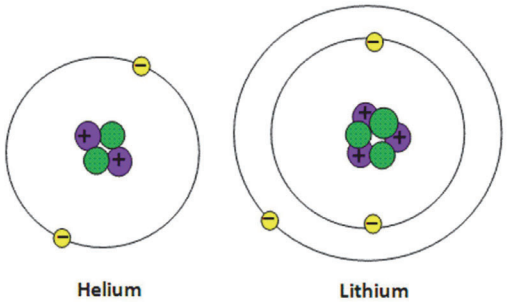
2. The picture shows a model of a helium atom and a model of a lithium atom.



Which of the following statements is true about the lithium and the helium atoms?

- **A.** There is no difference between helium and lithium.
- **B.** Lithium has more protons, neutrons, and electrons.
- **C.** Helium has more protons, neutrons, and electrons.
- **D.** Lithium is much smaller than helium.

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3. Which part of an atom has a negative charge?

- **A.** electron
- **B.** nucleus
- **C.** neutron
- **D.** proton

Day 5

4. Mercury is an element. Which of the following would be the same for all atoms of mercury?

- **A.** the number of protons
- **B.** the total number of protons and neutrons
- **C.** the number of neutrons
- **D.** the number of electrons

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5. An atom has at least one positive proton and at least one negative electron. Which of the following is true about the protons and electrons in an atom?

- **A.** Protons and electrons are far apart with empty space in between.
- **B.** Protons and electrons orbit close together around a central nucleus.
- **C.** Protons and electrons are mixed together in a cloud.
- **D.** Protons and electrons are stuck together in neutral pairs.

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6. Within an atom, electrons

- **A.** are inside the nucleus and are motionless.
- **B.** are in motion outside the nucleus.
- **C.** are in motion inside the nucleus.
- **D.** are outside the nucleus and are motionless.

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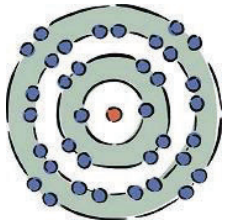
7. Which of the following make up the nucleus of an atom?

- **A.** protons and neutrons
- **B.** neutrons only
- **C.** electrons only
- **D.** protons and electrons

8.



A model of an atom is shown above. The blue dots represent electrons, and the red dot represents the nucleus. This model accurately represents

- **A.** that a single atom may have many nuclei.
- **B.** that electrons are found everywhere in an atom, even in the nucleus.
- **C.** what an atom would look like when seen through a microscope.
- **D.** that the nucleus is located at the center of the atom.

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9. A copper wire is made of copper (Cu) atoms. Which of the following best describes the copper atoms?

- **A.** They would be mostly the same, but some would have more protons than others.
- **B.** They are all basically the same, but the number of neutrons could vary.
- **C.** They are all exactly the same.
- **D.** They each have different numbers of protons, neutrons, and electrons.

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10. If an atom has 17 protons, 15 neutrons, and 19 electrons, what is the atom's electrical charge?

- **A.** -1
- **B.** -2
- **C.** -3
- **D.** +1
