RENEWABLE & NONRENEWABLE RESOURCES

WORKSHEETS
GRADES 6-8



My name _____ Date _____

Eight Resource Cards

Read the eight cards. Keep them all week.

Solar energy
Renewable. Solar panels change sunlight into electricity. The sun shines every day, so it is not used up.

Wind energy
Renewable. Moving air spins the blades of a turbine, and a generator makes electricity. Using the wind does not use it up.

Hydropower
Renewable. Flowing or falling water spins a turbine, often at a dam. Rain and snow keep refilling the rivers.

Geothermal energy
Renewable. Heat from deep inside Earth makes steam that spins a turbine. The heat keeps coming from inside Earth.

Coal
Nonrenewable. A fossil fuel that took millions of years to form. It is burned in power plants and gives off carbon dioxide.

Oil
Nonrenewable. A fossil fuel that is made into gasoline and diesel. Burning it gives off carbon dioxide.

Natural gas
Nonrenewable. A fossil fuel, mostly methane. It is burned for heating and for electricity.

Nuclear energy
Nonrenewable. Splitting uranium atoms makes heat. Uranium is a metal mined from the ground, and Earth has a limited amount.

Pick one card. Tell how nature replaces it, or why it cannot.

Renewable Resources - Eight Resource Cards

23 STUDENT PAGES

Bright Path Sped

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This is a fillable PDF

- Open it in a PDF reader (Adobe Acrobat Reader, Preview, or your browser), click into a line or a box, type, and Save As.
- The name line, every answer box, every ruled work box and every check box on the student pages are type-in fields, and so are the tracker, class grid, team note and family page. You can also print any page and write by hand.
- It works offline. No account, no subscription, no internet connection needed after you download it.

Print at 100 percent

Turn off fit to page and shrink to fit so the ruled lines stay 0.34 inch apart. Every student page is black and white inside a colored border, so it still reads when copied in black and white.

Student work

A filled-in tracker, class grid or team note carries a real student's name. Keep it in the data folder, and use a first name only on any page that leaves your hands.

Need help?

If a field will not behave or a page will not print the way you expect, use Ask a Question on the product page before leaving a review. Every question is read, and a fix to the file ships as a free update: re-download it any time from My Purchases.

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PREVIEW

How To Read a Page

The parts of a student page, then the kinds of sheet in the order they come.

The parts of a page

- **The answer box.** A bordered box for a letter, a number or a word. Click it to type, or print and write in it.
- **The ruled work box.** Lines 0.34 inch apart for sentences. Write one idea to a line.
- **The check box.** True or false, yes or not yet: click or mark.
- **The blank.** A short box inside a sentence on the guided notes. Type or write the missing word from the bank.
- **The cut line.** Six pieces in a 3 by 2 grid, each 2.4 by 1.15 inches, edge to edge: one cut across and two down.

Kind of sheet	How many	What the student does
Guided notes	2 sheets, 8 blanks	The same notes twice: fill in the blanks, or write in open boxes.
Readings and cards	4 sheets	Read, answer, and keep the eight resource cards to look things up.
Words and matching	4 sheets, 22 items	Match words and resources; try a worked example.
Table and scenarios	2 sheets, 18 items	Match each source to a benefit and a cost; judge what happens to a supply.
True or false and quizzes	4 sheets, 24 items	Check sentences, fix false ones, answer two quizzes.
Mistakes and writing	3 sheets, 10 items	Find Sam's mistakes; answer in full sentences.
Exit, self check, sorts	4 sheets, 12 pieces	Exit tickets, a self check, and two cut-and-paste sorts.

PREVIEW

Untimed, unscored on the page

No student page has a timer or a score on it. The keys and the tracker are for you. The answer keys are on pages 28 to 31.

Two versions of the notes

Use page 5 for students who need a word bank and sentence frames, and page 6 for students ready to write in their own words. Both cover the same ideas, so the class can share one discussion.

Printing and the type-in fields

Every page prints clean in black and white. Each answer box, ruled box and check box is a type-in field: click, type, then save. This is a fillable PDF, not a slideshow.

Room to work

Work boxes hold three or four lines. If a student needs more room, let them write on scrap paper and copy their best sentence into the box.

Preview · Bright Path Sped

My name _____ Date _____

Guided Notes 1: Fill In

Fill in each blank. Use the word bank.

Write the word from the bank in each blank. Some words are not used.

managed	wind	uranium	renewable	millions
sun	biomass	fossil fuels	geothermal	nonrenewable

1. A _____ resource is replaced by nature in a short time, so it can be used again and again.
2. A _____ resource forms so slowly that it cannot be replaced in a human lifetime.
3. Coal, oil and natural gas are _____ because they formed from the remains of ancient plants and animals.
4. Fossil fuels take _____ of years to form.
5. Nuclear power plants use _____, a metal mined from the ground, as their fuel.
6. Solar panels change light from the _____ into electricity.
7. _____ energy uses heat from deep inside Earth.
8. Forests and fresh water are renewable only if they are _____ so they are not used faster than they refill.

Pick one word from the bank. Use it in a sentence of your own.

PREVIEW

Preview · Bright Path Sped

My name _____ Date _____

Reading 1: Renewable Resources

Read about renewable resources. Then answer.

Replaced by nature

Renewable resources are replaced by nature in a short time, so people can keep using them. **Solar energy** comes from sunlight, and solar panels change it into electricity. **Wind energy** comes from moving air, which spins the blades of a turbine. **Hydropower** comes from flowing water, which spins turbines in a dam. **Geothermal energy** uses heat from deep inside Earth, often as steam. **Biomass** is plant material, such as wood and crop waste, that is burned for energy. Biomass is renewable when new plants are grown to replace the ones that were used. Each renewable source has limits. Solar panels make less power at night, and wind turbines need wind.

Main idea: What is this reading mostly about?

Check what you read. Write the letter in the box.

1. What makes a resource renewable?
   - **A** Nature replaces it in a short time
   - **B** It is found in many countries
   - **C** It costs nothing to use

2. Which source uses heat from deep inside Earth?
   - **A** Geothermal energy
   - **B** Hydropower
   - **C** Biomass

3. When is biomass renewable?
   - **A** Only when it is burned
   - **B** Never, because wood runs out
   - **C** When new plants are grown to replace what is used

PREVIEW

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My name _____ Date _____

Reading 3: Renewable If Managed

Read about forests and water. Then answer.

Renewable, with care

Some resources are in between. **Forests** are renewable because trees grow back, but a tree takes many years to grow. If people cut trees faster than new trees grow, the forest shrinks. **Fresh water** is renewable because rain and snow refill rivers, lakes and **aquifers**, which are underground layers of rock that hold water. If people pump out water faster than it refills, a well or a river can run low. We say these resources are **renewable if managed**. Managing means using them at a rate that lets them recover, such as replanting trees and limiting how much water is pumped.

Main idea: What is this reading mostly about?

Check what you read. Write the letter in the box.

1. Why does a forest shrink?
   - **A** Rain stops falling forever
   - **B** Trees are cut faster than new trees grow
   - **C** Trees can only be used once

   [ ]

2. What refills an aquifer?
   - **A** Wind blowing over the land
   - **B** Sunlight on solar panels
   - **C** Rain and snow that soak into the ground

   [ ]

3. What does managed mean here?
   - **A** Using a resource at a rate that lets it recover
   - **B** Using it as fast as possible
   - **C** Never using it at all

   [ ]

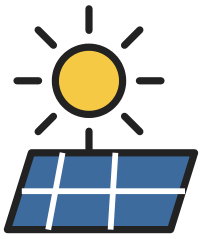
PREVIEW

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My name _____ Date _____

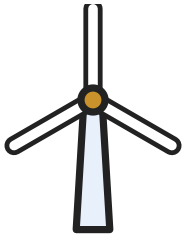
Eight Resource Cards

Read the eight cards. Keep them all week.



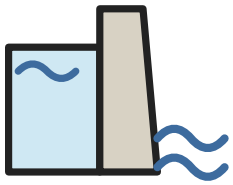
Solar energy

Renewable. Solar panels change sunlight into electricity. The sun shines every day, so it is not used up.



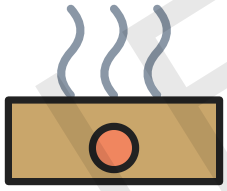
Wind energy

Renewable. Moving air spins the blades of a turbine, and a generator makes electricity. Using the wind does not use it up.



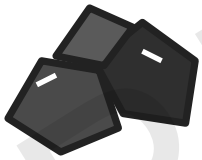
Hydropower

Renewable. Flowing or falling water spins a turbine, often at a dam. Rain and snow keep refilling the rivers.



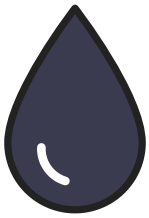
Geothermal energy

Renewable. Heat from deep inside Earth makes steam that spins a turbine. The heat keeps coming from inside Earth.



Coal

Nonrenewable. A fossil fuel that took millions of years to form. It is burned in power plants and gives off carbon dioxide.



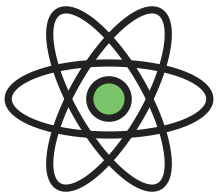
Oil

Nonrenewable. A fossil fuel that is made into gasoline and diesel. Burning it gives off carbon dioxide.



Natural gas

Nonrenewable. A fossil fuel, mostly methane. It is burned for heating and for electricity.



Nuclear energy

Nonrenewable. Splitting uranium atoms makes heat. Uranium is a metal mined from the ground, and Earth has a limited amount.

Pick one card. Tell how nature replaces it, or why it cannot.

PREVIEW

Preview · Bright Path Sped

My name _____ Date _____

Match Word to Meaning

Write the letter of the meaning for each word.

Write the letter of the meaning in the box. Use the readings to help you.

1	**Renewable resource**		A	Energy from flowing or falling water.
2	**Nonrenewable resource**		B	Coal, oil or natural gas, formed over millions of years from ancient living things.
3	**Fossil fuel**		C	Saving resources by using less or by using them wisely.
4	**Biomass**		D	A resource that nature replaces in a short time.
5	**Geothermal energy**		E	Plant material, such as wood or crop waste, burned for energy.
6	**Hydropower**		F	Using a resource at a rate that leaves enough for the future.
7	**Sustainable use**		G	A resource that forms too slowly to be replaced in a human lifetime.
8	**Conservation**		H	Energy from heat deep inside Earth.

Pick one word. Tell why it matters for the future.

PREVIEW

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My name _____ Date _____

Benefits and Costs

Match each source to a benefit and a cost.

Write one benefit letter and one cost letter for each source.

Benefits (A to F)

- **A** Large supplies in some places give steady power
- **B** Panels can sit on rooftops and use free sunlight
- **C** A little fuel makes a lot of electricity, with no carbon dioxide from the plant
- **D** Wind farms can be built on land or out at sea
- **E** Burns cleaner than coal, and plants can speed up fast
- **F** Water behind a dam can be stored and released when needed

Costs (G to L)

- **G** A dam floods land and changes the river and its fish
- **H** Burning it still adds carbon dioxide, and leaks release methane
- **I** Gives less power at night and on cloudy days
- **J** Makes radioactive waste that must be stored safely for a very long time
- **K** Needs steady wind, and blades can harm birds and bats
- **L** Mining scars land, and burning it adds carbon dioxide and soot

1	**Solar energy**	**Benefit**		**Cost**	
2	**Wind energy**	**Benefit**		**Cost**	
3	**Hydropower**	**Benefit**		**Cost**	
4	**Coal**	**Benefit**		**Cost**	
5	**Natural gas**	**Benefit**		**Cost**	
6	**Nuclear energy**	**Benefit**		**Cost**	

Pick one source. Is it worth the cost? Tell why.

PREVIEW

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My name _____ Date _____

True or False 1

Is it true or false? Check one.

Check true or false for each sentence.

1. A renewable resource is replaced by nature in a short time. ☐ true ☐ false

2. Coal is a renewable resource. ☐ true ☐ false

3. Using wind energy uses up the wind. ☐ true ☐ false

4. Oil, coal and natural gas are fossil fuels. ☐ true ☐ false

5. Solar panels burn fuel to make electricity. ☐ true ☐ false

6. Geothermal energy uses heat from inside Earth. ☐ true ☐ false

Pick one false sentence. Fix it so it is true.

PREVIEW

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My name _____ Date _____

Quiz A

Pick the best answer. Write its letter.

Take your time. Guess if you are not sure.

1. Which of these is renewable?
   - **A** Wind energy
   - **B** Coal
   - **C** Natural gas

2. Which of these is a fossil fuel?
   - **A** Solar energy
   - **B** Oil
   - **C** Biomass

3. What fuel does a nuclear power plant use?
   - **A** Uranium
   - **B** Coal
   - **C** Natural gas

4. Why is coal nonrenewable?
   - **A** It takes millions of years to form
   - **B** It cannot be burned
   - **C** It comes only from the sea

5. What does a solar panel do?
   - **A** Burns sunlight as a fuel
   - **B** Spins a turbine with steam
   - **C** Changes sunlight into electricity

6. Which statement about forests is correct?
   - **A** They are always nonrenewable
   - **B** They are renewable if managed
   - **C** They cannot be replaced

PREVIEW

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My name _____ Date _____

Short Answers 1

Answer each question in sentences.

Use facts from the readings and the cards. Write in sentences.

1. What is the difference between a renewable and a nonrenewable resource? Give one example of each.

2. Fossil fuels formed from ancient plants and animals. Explain why they are nonrenewable.

3. Pick one renewable source. Tell how it makes electricity and one limit it has.

PREVIEW

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My name _____ Date _____

Exit Tickets

Answer each ticket before you go.

Each ticket takes about two minutes. Your teacher may collect them at the door.

1 Name one renewable and one nonrenewable resource. Tell why each one belongs in its group.

2 In your own words, what does renewable if managed mean?

3 A town burns coal to make electricity. Name one benefit and one cost.

PREVIEW

My name _____ Date _____

Cut and Paste 1: Two Groups

Cut out the six pieces. Paste each one in the right box.

Read each piece. Can nature replace it quickly, or not?

Renewable: nature replaces it quickly	Nonrenewable: too slow to replace

PREVIEW

Cut on the dashed lines: six pieces, one cut across and two cuts down.

Geothermal: heat from deep inside Earth	Natural gas, a fossil fuel burned for heat	Hydropower: moving water spins a turbine
Oil, which is made into gasoline	Uranium, split to make heat in a nuclear plant	Biomass: plants regrown and burned for energy

Which piece was hardest to place? Why?

Answer Key: Readings, Words, Matching

Readings pages 7, 8, 9

Item	Letter	Answer
7.1	A	Nature replaces it in a short time
7.2	A	Geothermal energy
7.3	C	When new plants are grown to replace what is used
8.1	B	Millions of years
8.2	A	Natural gas
8.3	B	Earth has only a limited amount of it
9.1	B	Trees are cut faster than new trees grow
9.2	C	Rain and snow that soak into the ground
9.3	A	Using a resource at a rate that lets it recover

Resource Words page 10

Word	Letter	Meaning
1. turbine	D	a machine with blades that spin when wind, water or steam pushes on them
2. generator	F	a machine that changes motion into electricity
3. emissions	B	gases and tiny particles released into the air
4. uranium	E	a metal mined from the ground and used as fuel in nuclear power plants
5. aquifer	A	an underground layer of rock that holds water
6. reservoir	C	a lake, often made by a dam, that stores water

Match Word to Meaning page 13

Word	Letter	Meaning
1. Renewable resource	D	A resource that nature replaces in a short time
2. Nonrenewable resource	G	A resource that forms too slowly to be replaced in a human lifetime
3. Fossil fuel	B	Coal, oil or natural gas, formed over millions of years from ancient living things
4. Biomass	E	Plant material, such as wood or crop waste, burned for energy
5. Geothermal energy	H	Energy from heat deep inside Earth
6. Hydropower	A	Energy from flowing or falling water
7. Sustainable use	F	Using a resource at a rate that leaves enough for the future
8. Conservation	C	Saving resources by using less or by using them wisely

Which Resource Am I? page 14

Clue	Name
1. I use panels to change sunlight into electricity.	Solar energy
2. I use moving air to spin turbines.	Wind energy
3. I use falling or flowing water to spin turbines.	Hydropower
4. I use heat from deep inside Earth to make steam.	Geothermal energy
5. I am wood, crops or other plant waste that is burned for energy.	Biomass
6. I am a black rock formed from ancient plants, and I am burned in power plants.	Coal
7. I am a fossil fuel, mostly methane, burned for heating and electricity.	Natural gas
8. I get my heat from splitting the atoms of uranium.	Nuclear energy

PREVIEW

Answer Key: Scenarios, True or False, Mistakes

In the scenario match, A is the supply is kept up, B is the supply shrinks and C is gone once used. Sam is invented. Accept any wording that fixes a false sentence or a mistake.

Scenario Match page 16

Item	Letter	What happens
16.1	A	The supply is kept up
16.2	B	The supply shrinks
16.3	B	The supply shrinks
16.4	A	The supply is kept up
16.5	C	Gone once used, not replaced soon
16.6	C	Gone once used, not replaced soon

Find the Mistake page 21

Item	What went wrong	Right sentence
21.1	Renewable depends on how fast nature replaces a resource, not on how much there is.	Coal is nonrenewable because it takes millions of years to form.
21.2	Nothing is burned in hydropower. Moving water spins a turbine.	Hydropower uses moving water to spin a turbine.
21.3	Biomass is plant material that can be regrown, so it is renewable. Burning does not change that.	Biomass is renewable when new plants are grown to replace the ones used.
21.4	Geothermal energy comes from heat inside Earth, not from the sun.	Geothermal energy uses heat from deep inside Earth.

True or False pages 17, 18

Item	Answer	The fix
17.1	True	-
17.2	False	Coal is nonrenewable. It takes millions of years to form.
17.3	False	Wind is renewable. Using it does not use it up.
17.4	True	-
17.5	False	Solar panels change sunlight into electricity. Nothing is burned.
17.6	True	-
18.1	False	A nuclear plant splits uranium atoms to make heat. Nothing is burned.
18.2	True	-
18.3	False	Burning fossil fuels releases carbon dioxide into the air.
18.4	True	-
18.5	True	-
18.6	False	A renewable resource can run short if people use it faster than nature replaces it.

PREVIEW

Renewable Resources Tracker

One student, every scored sheet. Filled example: page 36.

Student _____ Teacher _____ Month _____

Page	Page type and set	Items	Right	Date	Notes
5	Guided Notes 1: Fill In	8			
7	Reading 1: Renewable Resources	3			
8	Reading 2: Nonrenewable Resources	3			
9	Reading 3: Renewable If Managed	3			
10	Resource Words	6			
13	Match Word to Meaning	8			
14	Which Resource Am I?	8			
15	Benefits and Costs	12			
16	Scenario Match	6			
17	True or False 1	6			
18	True or False 2	6			
19	Quiz A	6			
20	Quiz B	6			
21	Find the Mistake	4			
26	Cut and Paste 1: Two Groups	6			
27	Cut and Paste 2: Three Groups	6			

How to fill this in

Write how many items the student got right with no prompt, and the date. A blank means not tried yet, never wrong. There are 97 items on the 16 scored sheets. Answer keys: pages 28 to 31. Filled example: page 36.

This month we are working on (your own standard or wording)

PREVIEW

Team Note

Use this page between team meetings or when a student moves classes, to hand off what changed without writing a note from scratch. Everything below is observable, with a blank for the number or the wording your team already uses.

Student _____ Team member _____ Date _____

Kind of sheet	Covered since last note (Y/N)	Items right	Still blank
Notes and readings			
Matching			
Table and scenarios			
True or false			
Quizzes			
Mistakes			
Sorts			

What I saw (observable, not a conclusion)

- Matched ___ of 16 items (pages 13, 14).
- Matched ___ of 12 benefits and costs in the table (page 15).
- Got ___ of 12 true or false sentences right (pages 17, 18).
- Explained renewable versus nonrenewable in a complete sentence: yes / no / with a reminder.

Next step

- Next page or set: ___, because ___ (what you saw).
- What to try in another class or at home: ___.
- What to keep doing because it is working: ___.
- Anything for the team meeting to decide: ___ (this page records what happened, never a label or a plan).

Summary, in one or two sentences, for whoever reads this next

A filled-in line, for reference

"Got 5 of 6 true or false sentences right on 10/14. Next step: reread Reading 2 and ask how long coal takes to form." That is the level of detail this page is built for. It matches the filled example on page 36.

PREVIEW

Maya's Tracker (Invented Student)

Maya R. is invented; nothing on this page describes a real student. The blank tracker is on page 32.

Student: Maya R. (an invented student)

Teacher: Mr. Lind (invented)

Month: October

Page	Page type and set	Items	Right	Date	Notes
5	Guided Notes 1: Fill In	8	6	10/6	Mixed up renewable and nonrenewable
7	Reading 1: Renewable Resources	3	3	10/7	-
8	Reading 2: Nonrenewable Resources	3	2	10/8	Thought uranium is burned
9	Reading 3: Renewable If Managed	3	-	-	-
10	Resource Words	6	5	10/9	Mixed up turbine and generator
13	Match Word to Meaning	8	7	10/10	Swapped sustainable use and conservation
14	Which Resource Am I?	8	-	-	-
15	Benefits and Costs	12	9	10/13	Missed three costs
16	Scenario Match	6	-	-	-
17	True or False 1	6	5	10/14	Thought coal is renewable
18	True or False 2	6	-	-	-
19	Quiz A	6	4	10/15	Missed fossil fuel and nuclear fuel
20	Quiz B	6	-	-	-
21	Find the Mistake	4	-	-	-
26	Cut and Paste 1: Two Groups	6	6	10/20	-
27	Cut and Paste 2: Three Groups	6	-	-	-

How to read it

Maya R. has done **9 of 16** scored sheets and got **47 of 58** items right with no prompt. **2** sheets were all right and **7** carry a note. Every number comes from the table.

What the table points to

The lowest sheets are Reading 2: Nonrenewable Resources (2 of 3) and Quiz A (4 of 6). Those are where the next practice goes. The 7 sheets left blank are not tried yet, never wrong.

PREVIEW