

Pennsylvania Grade 3 Earth and Space Science Summer Workbook

Earth and Space Science: Practice and Readiness

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Welcome to Grade 3

Earth & Space Summer Workbook



An 8-week Earth science workbook for data reading, writing, and careful practice.

This workbook gives students more room to practice the Grade 3 Earth and space science ideas they learned in class. Students read weather tools, complete graphs, compare climate clues, and explain hazard solutions. The goal is not to finish fast. The goal is to use evidence carefully and fix thinking when an answer does not match the science.

Workbook work

- read thermometers, rain gauges, and wind clues
- complete tables, pictographs, and bar graphs
- write short answers from evidence
- compare climate regions using more than one source
- judge whether a safety design fits the hazard

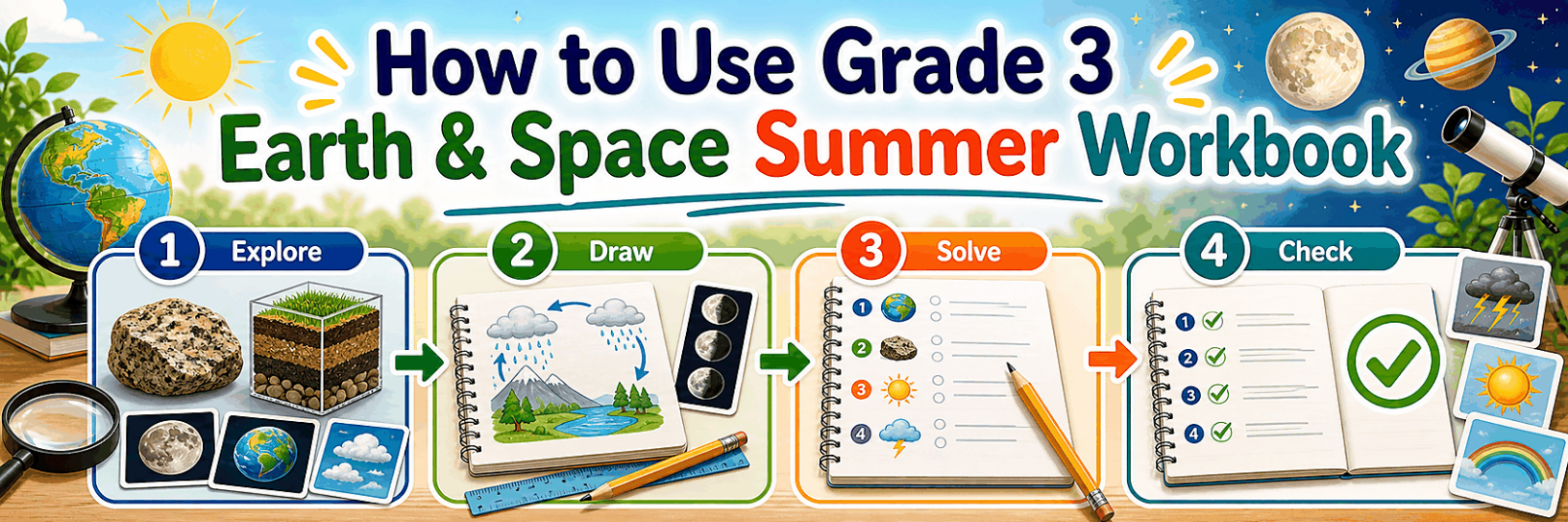
Science inside

- daily weather and seasonal patterns
- typical weather shown by data displays
- weather today compared with long-term climate
- polar, temperate, tropical, desert, and mountain climates
- storms, floods, heat, drought, and protective designs

How the workbook is different

The review book refreshes ideas. This workbook gives more active practice. Days 1–4 build one topic at a time. Friday mixed review asks students to decide which Earth science idea fits each new question.

How to Use Grade 3 Earth & Space Summer Workbook



Treat each workbook page as a short Earth science work session.

This workbook gives students more practice than the review book. Read the reminder, study the visual, answer the questions, and then use the answer explanations to repair any shaky ideas. Written work can be short, but it should point to real weather, climate, or hazard evidence.

- Start the page** Read the quick review and name the topic: weather data, seasonal pattern, climate region, weather hazard, or safety design.
- Do the practice** Use the picture, table, graph, map, or short text as evidence. Write a short answer only when the question asks for one.
- Friday review** Mix the week's ideas. Do not guess by page title; decide which science idea each question is testing.
- Check and fix** Correct missed answers in pencil. Reread one sentence or visual clue that would have helped.

Mark clues

Circle useful weather words, graph bars, map colors, warning signs, or data before answering.

Show work

Use a quick label, arrow, drawing, or word phrase when it helps explain your thinking.

Retry one

Pick one missed question to try again the next day without looking first.

Student habit

Try the full page before checking. Keep answers short but scientific. Use vocabulary from the review when possible. Fix mistakes before marking the page complete.

Adult support

Ask what clue helped before saying if it is correct. If reading is hard, read the question aloud. Use missed items to review one science word.



My Science Workbook Progress

Track each practice day, then write the Friday mixed-review score.

8 weeks

32 practice days

8 Friday reviews

This grade 3 science summer workbook belongs to:

Week	Focus	Mon	Tue	Wed	Thu	Friday Review
1	Weather Patterns and Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
2	Climates Around the World and Weather Hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
3	Weather Hazards and Weather Patterns and Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
4	Weather Patterns and Data and Climates Around the World	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
5	Climates Around the World and Weather Hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
6	Weather Patterns and Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
7	Climates Around the World and Weather Hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
8	Weather Hazards and Weather Patterns and Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10

Reflection Notes

A weather or climate idea that feels strong: _____

An Earth science idea to revisit: _____



★ *Table of Contents* ★

Here's what we'll explore together!

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Let's learn and have fun!



WEEK

1

Weather Patterns and Data

Practice this week's science ideas.

This Week's Days

- Day 1* *Observing and Measuring Weather*
- Day 2* *Recording Weather Data*
- Day 3* *Seasonal Patterns*
- Day 4* *Graphing a Season's Story*
- Day 5* *Week 1 Mixed Review*

Week 1 Day 1 **Observing and Measuring Weather**

Big idea: Weather is what the air and sky are like at one place and time. Careful observations use names, tools, and numbers so people can compare weather from day to day.

- **Weather parts:** Temperature tells how warm or cold the air is. Precipitation tells what water falls from clouds. Wind tells how air moves. Cloud cover tells how much sky is covered.
- **Helpful tools:** A thermometer measures temperature, a rain gauge measures rain or snow, a wind vane shows direction, and an anemometer measures wind speed.
- **Clear reports:** A report like 12 degrees C, cloudy, and light rain gives stronger evidence than saying the weather is bad.
- **Place and time:** Weather can change quickly, so scientists record where and when they observed it.
- **Picture clues:** Photos, tool readings, and written notes can all be weather evidence when they describe the air or sky.



Observing and measuring weather



Practice

Workbook Practice

Choose the best answer.

1 Which tool measures air temperature? _____

- | | |
|-------------------------------------|-----------------------------------|
| <input type="radio"/> A rain gauge | <input type="radio"/> C wind vane |
| <input type="radio"/> B thermometer | <input type="radio"/> D ruler |

2 Which observation names precipitation? _____

- | | |
|--------------------------------------|---------------------------------------|
| <input type="radio"/> A north wind | <input type="radio"/> C light rain |
| <input type="radio"/> B 18 degrees C | <input type="radio"/> D mostly cloudy |



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Answer Key & Explanations

Check the answer first, then read the explanation to see the evidence or reasoning.

Week 1 Day 1: Observing and Measuring Weather

Answers

1

B

2

C

3

B

4

True

5

True

6

False

7

precipitation

8

wind vane

9

measured

10

anemometer

11

See Explanation

12

See Explanation

Explanations

1

A thermometer measures how warm or cold the air is, which is temperature.

2

Rain is water falling from clouds, so it is precipitation.

3

The best report uses measurements and named conditions, not vague opinion words.

4

Weather is local and current, such as today's wind, clouds, or temperature.

5

Cloud cover is a weather detail about the amount of clouds in the sky.

6

A rain gauge measures precipitation; an anemometer measures wind speed.

7

Precipitation is water from clouds, including rain or snow that can be measured.

8

A wind vane turns with the wind and shows wind direction.

9

The report includes a number and a named sky condition, so it uses evidence.

10

An anemometer measures how fast the wind is moving.

11

A scientific report replaces vague words with evidence, such as temperature, rain amount, wind, and cloud cover.

12

The photo can show cloud cover, and the rain gauge gives a measured amount of precipitation.



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Week 1 Day 2: Recording Weather Data

Answers

- 1 A 2 A 3 A 4 True 5 True 6 False 7 degrees C
 8 rain column 9 strong west wind 10 date 11 See Explanation
 12 See Explanation

Explanations

- 1 A table lines up observations in rows and columns for easy comparison.
- 2 One row often lists all the recorded weather details for one day.
- 3 Using the same categories each day makes the records fair to compare.
- 4 Repeated records let you compare days and notice what happens again.
- 5 Labels name the kind of data in each column, such as temperature or rain.
- 6 Units tell what the numbers mean, such as degrees C or millimeters of rain.
- 7 Temperature numbers need a unit such as degrees C.
- 8 A rain or precipitation column lists that one detail for several days.
- 9 It gives both speed and direction, so the record is more specific.
- 10 The date shows which day the weather observation belongs to.
- 11 Same categories let the class compare days and see which weather details changed.
- 12 Comparing the rain amounts can show repeated wet days, dry days, or the day with the most rain.

Week 1 Day 3: Seasonal Patterns

Answers

- 1 B 2 A 3 B 4 False 5 True 6 False 7 summer



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8 pattern

9 winter

10 typical

11 See Explanation

12 See Explanation

Explanations

1 A seasonal pattern repeats during seasons, such as warmer summers.

2 One day is only one observation, and patterns need repeated data.

3 A seasonal pattern needs repeated evidence over time, not one short event.

4 Patterns describe what usually happens, not what happens every single day.

5 A seasonal pattern is based on typical weather seen again and again.

6 One unusual day does not erase the usual pattern for the whole season.

7 Summer is one season; spring, fall, and winter are also seasons.

8 A pattern repeats, so it can help describe seasons.

9 In many places, winter is usually colder than summer.

10 Typical means what usually happens, even though some days can be different.

11 A pattern needs many records over time, so one day is only one piece of evidence.

12 Seasonal patterns help people choose clothing, supplies, or activities for likely weather.

Week 1 Day 4: Graphing a Season's Story**Answers**

1 A

2 A

3 B

4 True

5 True

6 False

7 labels

8 least

9 pattern

10 scale

11 See Explanation

12 See Explanation

Explanations

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