Unit 5 · Science and Experiment

ANSWER KEY · FOR TEACHERS

Full marks 32

Give the marks for the points in the marking scheme; an answer in other words that says the same is right.

1 Words from the article

1. altitude → **d.** height above sea level — V · 3
2. equilibrium → **c.** a state of balance between two opposite changes
3. condense → **e.** to change from gas to liquid
4. vacuum → **b.** a space with almost all the air taken out
5. plunger → **g.** the part of a syringe that slides in and out of the tube
6. induce → **a.** to cause something to happen

Each carries 0.5 mark.

2 Words from the poem

1. descend — V · 3
2. drought
3. latent
4. origin
5. eternal
6. vaguely

Each carries 0.5 mark.

3 Reading I: Yes, You Can Boil Water at Room Temperature

i. **b.** water boils at a lower temperature at high altitude. — LC · 1

The boiling point falls about 1 °F for every 500 feet of altitude; in Denver water boils at about 203 °F, so food cooks more slowly.

ii. **c.** water vapor. — LC · 1

The bubbles are pockets of water vapor, not air and not hydrogen and oxygen.

iii. **b.** its vapor pressure equals the pressure on its surface. — R · 1

A bubble lasts only if the vapor pressure inside is at least equal to the pressure outside, so water boils when its vapor pressure equals the outside pressure.

iv. **c.** he could not make a perfect vacuum, and warmer water needs less pulling to boil. — I · 1

He could not get a perfect vacuum by pulling, so he “needed a little boiling help” by starting with warmer water, whose vapor pressure is higher.

4 Reading II: The Voice of the Rain

a. MARKING SCHEME — LC · 1

✓ The Poem of Earth.

b. MARKING SCHEME — LC · 1

✓ Out of the land and the bottomless sea.

c. MARKING SCHEME — R · 1

✓ They would remain only seeds, latent and unborn (they would not grow).

d. MARKING SCHEME — I · 1

✓ Both go out from where they are born, do their work and return: the rain to the Earth it came from, a song with love to its maker.

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5 Reading III: an unseen article

LC · 3

i. ✗ **False:** It boils at about 95 °C.
ii. ✓ **True**
iii. ✗ **False:** He showed it in 1679.

Each carries 1 mark.

6 Reading III: short answers

a. MARKING SCHEME — R · 1

✓ The trapped steam raises the pressure, so the water boils at a higher temperature (about 120 °C).

b. MARKING SCHEME — I · 1

✓ The steam inside is under high pressure and very hot, so it could burst out and burn the person opening it.

7 Grammar: conditional sentences

a. MARKING SCHEME — R · 1

✓ melts (a fact: zero conditional)

b. MARKING SCHEME — R · 1

✓ rains (present in the if-clause of a first conditional)

c. MARKING SCHEME — R · 1

✓ were (an imagined present: second conditional)

d. MARKING SCHEME — R · 1

✓ would not (wouldn't) have missed (third conditional)

e. MARKING SCHEME — R · 1

✓ Had (Had I known = If I had known)

f. MARKING SCHEME — R · 1

✓ water (unless = if not, followed by the present)

8 Writing: a letter to the editor

ANSWER

Ward No. 4, Banepa
Kavrepalanchok
10 Chaitra 2082

The Editor
The Rising Nepal
Dharmapath, Kathmandu

Dear Sir/Madam,

Through the columns of your daily, I would like to draw the attention of the authorities to the loud music in our locality.

During the wedding season, loudspeakers play at full volume until midnight. This is the time of our SEE, and students cannot study or sleep. Old and sick people are disturbed too.

I would like to suggest a few measures. Loudspeakers should be switched off by nine at night, and the volume should be kept low. The ward office should make this rule and act against those who break it.

I hope the authorities will take quick action.

Yours faithfully,
Anisha Shrestha

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MARKING SCHEME E · 5

- ✓ Format: the writer's address and date, the editor and the newspaper, a greeting and a closing with the name.
- ✓ Content: the problem and where (loud music late at night in the locality).
- ✓ Content: its effects (students cannot study or sleep, old and sick people disturbed).
- ✓ Content: clear suggestions (a time limit, lower volume, action by the ward office).
- ✓ Language: formal, polite and correct English, in about 100 words.

9 Think

ANSWER E · 2

First, food takes much longer to cook in boiling water, and at great heights rice and dal never cook properly, so people need pressure cookers, which also means carrying more fuel. Second, boiling water may not be hot enough to kill every germ in a short time, so water should be boiled longer or treated another way before drinking.

MARKING SCHEME

- ✓ One sound point (food cooks slowly or not at all; pressure cookers and more fuel needed).
- ✓ A second sound point (water must be boiled longer to be safe; tea and food are less hot).

Marks by level	Literal comprehension	Reorganization	Inference	Evaluation and reflection	Vocabulary	**Total**
Marks	7	9	3	7	6	**32**

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