SCIENCE, DISCOVERIES AND INVERSION

1. Negative openings

Name: _____ Date: _____

THE RULE

Put a negative or restrictive expression first to give it emphasis. Move the first auxiliary or modal before the subject.

Negative expression + auxiliary + subject + main verb

Normal: The researchers **had never seen** this pattern.

Inverted: **Never had the researchers seen** this pattern.

Present simple: **Rarely do scientists rely** on one result.

Remember: No auxiliary? Add do, does or did. After these, use the base verb. Keep the original tense. With be, move be directly: Never was the image clearer.

PRACTISE

1. In 1610, Galileo observed four moons orbiting Jupiter. Imagine a student seeing them through a telescope for the first time.

Rewrite: I have never seen those moons so clearly.
Begin: **Never ...**

2. An experimental battery works well in one trial but poorly in another. The engineers need several measurements before drawing a conclusion.

Rewrite: Engineers rarely accept a result without further testing.
Begin: **Rarely ...**

3. In this imagined laboratory, a researcher notices an unusual signal. At the time, she does not understand its significance.

Rewrite: She knew little about the importance of the signal.
Begin: **Little ...**

4. A team is preparing a report on a new water filter. Its readers need an accurate account of the results.

Rewrite: Researchers should not hide conflicting results under any circumstances.
Begin: **Under no circumstances ...**

YOUR TURN

Choose an invention. Write one surprising observation with Never or Rarely and one research principle with Under no circumstances.

Optional online practice: Wordwall activity 1

LIVEWORKSHEETS

2. Not only ... but also

Name: _____ Date: _____

THE RULE

Emphasise two related facts. Invert the first clause. Keep normal word order in the second clause.

Not only + auxiliary + subject + verb, but + subject + also + verb

Not only did the microscope enlarge the sample, but it also revealed its structure.

Remember: Keep the two parts parallel. After did, write enlarge, not enlarged. Do not invert just because not only occurs inside a sentence.

PRACTISE

1. Tim Berners-Lee invented the Web at CERN in 1989 to help scientists share information. The Web later supported many other uses.

Combine: The Web helped scientists share information. It also created opportunities for online learning.
Begin: **Not only ...**

2. MRI uses strong magnetic fields and radio waves to produce detailed images of structures inside the body.

Combine: MRI can show internal structures. It can also help researchers study the body.
Begin: **Not only ...**

3. Bell Labs researchers invented the transistor in 1947. Transistors became central components of modern electronic devices.

Combine: Transistors make compact electronics possible. They also support modern computing.
Begin: **Not only ...**

4. Students have designed a small robot for a science fair. During their project, they have improved its camera and reduced its weight.

Combine the two achievements.
Begin: **Not only have the students ...**

YOUR TURN

Choose an invention you use today. Describe two related benefits in one sentence with Not only ... but also.

Optional online practice: Wordwall activity 2

LIVEWORKSHEETS

3. Only after, only when, only by

Name: _____ Date: _____

THE RULE

Keep normal word order inside the opening clause. Invert the main clause that follows it.

Only + time / condition / method + inverted main clause

Only when the researcher adjusted the lens did the image become clear.

Only by repeating the test can the team confirm the result.

Remember: Only + subject does not trigger inversion: Only the microscope needed adjustment.

PRACTISE

1. After returning from holiday in 1928, Fleming examined a dish with mould and noticed a clear area where bacteria had not grown.

Rewrite: He noticed the clear area only when he examined the dish.
Begin: **Only when ...**

2. Galileo observed points of light near Jupiter over several nights. Their changing positions helped him interpret what he was seeing.

Rewrite: He understood the pattern only after he compared several observations.
Begin: **Only after ...**

3. In this laboratory scenario, clouds affect the readings. Engineers repeat the measurements under controlled conditions.

Rewrite: They can compare the panels fairly only by controlling the conditions.
Begin: **Only by ...**

4. A team checks its microscope, computer and camera. The computer and camera work correctly, but the microscope needs adjustment.

Which is correct, and why?
A. Only the microscope needed adjustment.
B. Only did the microscope need adjustment.

YOUR TURN

Imagine testing a new battery or water filter. Write one sentence with Only when and one with Only by.

Optional online practice: Wordwall activity 3

LIVEWORKSHEETS

4. Not until

Name: _____ Date: _____

THE RULE

This structure stresses that something did not happen before a particular time or event.

Not until + time / clause + auxiliary + subject + main verb

Normal: The team did not publish until it checked the data.

Inverted: **Not until the team checked the data did it publish.**

Remember: The opening clause stays in normal order. The main clause becomes affirmative: did it publish, not did it not publish.

PRACTISE

1. Einstein predicted gravitational waves in 1916. LIGO made the first direct detection in 2015 and announced it in 2016.

Rewrite: LIGO did not directly detect gravitational waves until 2015.
Begin: **Not until ...**

2. The speaker worries that something on the first slide may have affected the observation. The speaker checks fresh samples.

Rewrite: I did not begin to believe it until I saw the same thing in each sample.
Begin: **Not until ...**

3. In this imagined test, a weak signal prevents the receiver from working. Moving the receiver improves reception.

Rewrite: The signal was not strong enough until the receiver was moved.
Begin: **Not until ...**

4. A university team is testing a small research balloon. Its launch depends on completing the equipment checks.

Rewrite: The team will not launch the balloon until the checks are complete.
Begin: **Not until ...**

YOUR TURN

Your team is preparing to announce a discovery. Write a future sentence beginning Not until to explain what must happen first.

Optional online practice: Wordwall activity 4

LIVEWORKSHEETS

5. Hardly, scarcely and no sooner

Name: _____ Date: _____

THE RULE

These narrative patterns emphasise that the second event happened almost immediately after the first.

Hardly / Scarcely / Barely had ... when ...
No sooner had ... than ...

Hardly had I focused on the slide **when** another organism appeared.

No sooner had I moved the slide **than** more organisms came into view.

Remember: Use past perfect in the first clause and usually past simple in the second. Choose when after hardly and than after no sooner.

PRACTISE

1. In this imagined classroom, a student adjusts the lens. Almost immediately, tiny moving organisms become visible.

Combine: She had adjusted the lens. The organisms appeared immediately.
Begin: **Hardly ...**

2. A fictional telescope team has waited all night for a new image. As soon as it arrives, the scientists begin discussing it.

Combine the events.
Begin: **No sooner had the image ...**

3. A researcher starts a large simulation. An error message appears immediately, so the researcher checks the program.

Correct both mistakes:
Hardly the researcher had started the simulation than an error message appeared.

4. A team notices a possible result in January. It publishes the result eight months later, after extensive checking.

Would No sooner had they noticed it than they published it preserve the meaning? Explain and suggest a more suitable sentence.

YOUR TURN

Describe two events at a science exhibition that happen almost immediately. Use Hardly ... when, then rewrite with No sooner ... than.

Optional online practice: Wordwall activity 5

LIVEWORKSHEETS

6. Conditionals without if

Name: _____ Date: _____

THE RULE

These are formal alternatives to particular if-clauses. The result clause keeps its usual form.

Had + subject + past participle
Were + subject + to + verb
Should + subject + base verb

If I had given up ... = **Had I given up**, I would have missed it.

If we were to improve the lens ... = **Were we to improve the lens**, we might see more.

If you should notice a fault ... = **Should you notice a fault**, report it.

Remember: Had: an unreal past. Were to: a hypothetical present or future. Should: a possible future event. Put not after the subject: Had I not checked ...

PRACTISE

1. Imagine a scientist who carefully examines an unexpected result. Consider the alternative: the scientist ignores it.

Rewrite: If she had ignored the result, she might have missed an important clue.
Begin: **Had ...**

2. Imagine that a city loses access to satellite navigation. Drivers would need other ways to find unfamiliar addresses.

Rewrite: If the city were to lose access to satellite navigation, deliveries might take longer.
Begin: **Were ...**

3. A research team gives visitors instructions before a demonstration. A fault is possible, but it is not expected.

Rewrite: If you should notice a warning light, tell the technician.
Begin: **Should ...**

4. Two fictional laboratories shared their findings and finished a project sooner. Imagine that they had not shared them.

Rewrite: If they had not shared their findings, the project might have taken longer.
Begin: **Had ...**

YOUR TURN

Choose an invention. Write one sentence beginning Had, Were ... to or Should. Make the time and possible result clear.

Optional online practice: Wordwall activity 6

LIVEWORKSHEETS

7. So, neither and nor

Name: _____ Date: _____

THE RULE

Use so to agree with an affirmative statement. Use neither or nor to agree with a negative statement. Match the tense and auxiliary.

So + auxiliary + subject
Neither / Nor + auxiliary + subject

"I enjoy science." "**So do I.**"

"I haven't used that microscope." "**Neither have I.**"

"We couldn't explain it." "**Nor could we.**"

Remember: Use an affirmative auxiliary after neither/nor: Neither have I. These short replies are common in conversation.

PRACTISE

1. Two students both enjoyed an exhibition about the invention of the transistor. One says, "I enjoyed the exhibition."
The other student agrees. Complete the reply:
So _____.

2. Two researchers have not used the laboratory's new microscope. One says, "I haven't used it before."
The other researcher agrees. Complete the reply:
Neither _____.

3. Two teams cannot explain an unusual signal yet. One team says, "We can't explain it."
The other team agrees. Complete the reply:
Nor _____.

4. Two students will both take part in a demonstration tomorrow. One says, "I'll take part tomorrow."
Choose and explain:
A. So do I. B. So will I. C. Neither will I.

YOUR TURN

Write two short science or technology dialogues. Use So in one agreement reply and Neither or Nor in the other. Use different auxiliaries.

Optional online practice: Wordwall activity 7

LIVEWORKSHEETS

8. Inversion after place expressions

Name: _____ Date: _____

THE RULE

With verbs such as stand, lie, sit and come, a place expression can come first and the main verb can precede a noun subject.

Place expression + main verb + noun subject

Normal: An early computer stood at the back of the gallery.

Inverted: **At the back of the gallery stood an early computer.**

Noun: **Here comes the robot.** Pronoun: **Here it comes.**

Remember: Do not add do/does/did in this pattern. With a pronoun, usually keep normal order. This descriptive pattern is less common in IELTS argument essays.

PRACTISE

1. Visitors enter a gallery devoted to instruments that changed research. A large telescope is the first object they see.

Rewrite: A large telescope stands near the entrance.
Begin: **Near the entrance ...**

2. Imagine the laboratory in the recording. The scientist has left several notebooks beside the microscope.

Rewrite: Several notebooks lay beside the microscope.
Begin: **Beside the microscope ...**

3. A small robot enters the room. First name it, then refer to it with the pronoun it.

Complete both:
Here _____ the robot.
Here _____. (it / comes)

4. An exhibition displays an early computer at the back of a gallery. A student writes a description.

Correct the sentence:
At the back of the gallery did stand an early computer.

YOUR TURN

Describe two objects in a science museum. Begin each sentence with a place expression and put the main verb before the noun subject.

Optional online practice: Wordwall activity 8

LIVEWORKSHEETS