



2025-2026 Regional Tournament Study Guide – Gold Question Set

Instructions: This study guide should be your first step in preparing for the [National & International Science Bee Regional Tournaments](#) on the Gold Question Set. Many of the facts below are found in the 120 questions on the Gold Question Set. Other facts in the study guide will be found in the other Question Sets being used this academic year. **However, the majority of questions in the tournament are not referenced in the study guide.** The study guide is meant to help you get started. It is not meant to be fully comprehensive as the essence of academic competition is not memorizing a list, but having wide-ranging knowledge.

As the questions are all short paragraphs on a particular topic, if a topic is found below, then it is a good idea to learn more about it (since additional facts about a topic will also be referenced in the question). It is also helpful to read the introduction of a Wikipedia page on a topic. Please also use our past question sets which are [found here](#). Many of the topics that are found in past years' questions will come up this year too.

Good luck!

Note: This academic year, the study guides are slightly shorter than in past years, but we are also including a list of additional terms at the end. These are also likely to be referenced at some point in the tournament, but you will need to do some research to learn about the significance of each of these.

Biology & Anatomy

1. The theory of [evolution](#), developed by [Charles Darwin](#), explains life's diversity through descent by modification.
2. [Giant pandas](#) are black and white bears native to the [bamboo](#) forests of central China.
3. [Coral reefs](#) are ocean habitats consisting of [cnidarian](#) skeletons.
4. [Urine](#) is liquid bodily waste that is stored in the [bladder](#).
5. [Proteins](#) are essential biological molecules that are found in foods like eggs and meat.
6. The [femur](#) is the longest bone in the human body, connecting the hip to the knee.
7. [White blood cells](#), also called leukocytes, are disease-fighting cells that are part of the [immune system](#).
8. [Vitamin A](#) is found in carrots and promotes [retina](#) development and eye health.

Astronomy

1. [Galaxies](#) are massive collections of stars, gas and dust, such as the [Milky Way](#).
2. [Gamma rays](#) are powerful electromagnetic radiation, named for the third letter of the Greek alphabet.
3. [Asteroids](#) are small, rocky bodies that orbit in a namesake belt between [Mars](#) and [Jupiter](#).
4. [Polaris](#) is the current North Star.

Chemistry

1. [Sodium](#) has the chemical symbol Na and is the metallic component in [table salt](#).
2. [Zinc](#) is a metal with chemical symbol Zn that combines with [copper](#) to form [brass](#).
3. [Carbon](#) has atomic number six, and its allotropes include [graphite](#) and [diamond](#).
4. [Fluorine](#) is the lightest [halogen](#), which forms an extremely toxic yellow gas.
5. [Iron](#) is a metallic element that combines with carbon to make the alloy [steel](#).

Engineering

1. [Refrigerators](#) are home appliances that use heat pumps to create low temperatures for food storage,
2. [Wind turbines](#) feature large rotating blades that capture energy from the movement of air.

Earth Science

1. [Caves](#) are natural voids under the Earth's surfaces formed by the [weathering](#) of rock.
2. [Tides](#) are risings and fallings of the level of the seas caused by the Moon's [gravity](#).
3. [Glaciers](#) are large moving bodies of ice that contain the majority of the Earth's fresh water.
4. [Tsunamis](#) are giant tidal waves generally produced by seismic activity.
5. [Floods](#) are events where water overflows onto land that is generally dry. Flat areas that flood frequently near rivers are called floodplains.
6. [Earthquakes](#) are shakings of the Earth's surface due to a sudden energy release in the [lithosphere](#).
7. The [stratosphere](#) is the second-lowest layer of the Earth's atmosphere, just above the [troposphere](#).
8. The [crust](#) is the outermost solid shell of any rocky celestial surface.
9. [Temperature](#) is a measure of the average [kinetic energy](#) of a substance's particles.

Math

1. [Pi](#) is a [transcendental number](#) equal to approximately 3.14159.
2. [Prime numbers](#) are [natural numbers](#) that have no factors other than themselves and 1.
3. [Circles](#) are geometric shapes that consist of all points of equal distance from a central point.

Physics

1. [Mass](#) is the amount of matter in a material, the standard measure of which is the [kilogram](#).
2. Nuclear [fusion](#) is a reaction in which multiple atomic [nuclei](#) join to form a larger nucleus.
3. [Magnetic fields](#) are [vector](#) fields showing the strength of magnetism and are measured in Tesla units.
4. [Photons](#) are massless particles that are the [quanta](#) of light.

Terms for Further Study

1. [Uncertainty principle](#)
2. [Vitamin C](#)
3. [Manhattan Project](#)
4. [Niels Bohr](#)
5. [Apoptosis](#)
6. [Thylakoid](#)
7. [Fracking](#)
8. [Oracle Corporation](#)
9. [Linked list](#)
10. [Android OS](#)
11. [Ozone](#)
12. [Permutation](#)
13. [Polygon](#)
14. [Velocity](#)
15. [Gravitational constant](#)
16. [Schrodinger's cat](#)
17. [Ultraviolet radiation](#)
18. [Nephron](#)
19. [ATP](#)
20. [Retina](#)
21. [Isotope](#)
22. [Quasar](#)
23. [Median](#)
24. [Pie chart](#)
25. [Andromeda galaxy](#)
26. [Stomata](#)
27. [Equilibrium](#)
28. [Jet stream](#)
29. [Volume](#)
30. [Red tide](#)