2026-2027 Regional Tournament Study Guide – White Question Set

Instructions: This study guide should be your first step in preparing for the National Science Bee Regional Tournaments on the White Question Set. Many of the facts below are found in the 120 questions on the White 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 respiratory system is the network of organs and tissues that allows you to breathe.
2. Yeast is a tiny, single-celled living fungus used to make bread rise through fermentation and producing carbon dioxide.
3. *E. coli* is a large, diverse group of bacteria that normally live in the intestines of humans and warm-blooded animals.
4. The flower is the specialized reproductive structure found in angiosperms whose job is to help the plant reproduce by producing seeds.
5. Albinism is a rare, lifelong genetic condition where the body produces little or no melanin.
6. Coronaviruses are a large family of viruses that cause illness ranging from the common cold to more severe respiratory diseases.

Astronomy

1. Mercury is the smallest planet in our solar system and the absolute closest one to the Sun.
2. An eclipse happens when one space object, like the Moon or a planet, blocks the light of the sun or moves into the shadow of another space object.
3. Taurus is one of the oldest recognized patterns of stars in human history and is shaped like the front half of a bull.
4. A nebula is a giant cloud of gas and dust in space.

Chemistry

1. Rubber is a waterproof material that is either naturally derived from latex or synthetically using petroleum and natural gas chemicals.
2. Nickel is a hard, silvery-white metal with a slight golden shine that resists rust and conducts heat and electricity well.
3. Magnesium is a lightweight, silvery-white metal and a chemical element with the symbol Mg and atomic number 12.
4. An acid is a chemical substance that releases hydrogen ions or donates a proton when dissolved in water.
5. Caffeine is a natural central nervous system stimulant naturally occurring in coffee beans, tea leaves, and cacao pods.

Engineering

1. Geothermal energy is thermal energy stored deep inside the Earth.

2. A centrifuge is a machine that spins mixtures at high speeds to separate their parts by density.

Earth Science

1. Limestone is a type of natural rock made mostly of the old, crushed-up shells and skeletons of tiny sea creatures.
2. A river delta is a flat, fan- or triangle-shaped piece of land that builds up where a river empties into a larger body of water.
3. A weather front is an invisible meeting line or boundary where two large packs of air, one warm and one cold, bump into each other.
4. In earth science, a beach is a flat or gently sloping strip of land where the dry ground meets a body of water, such as an ocean, sea, lake, or river.
5. An iceberg is a large piece of freshwater ice that has broken off from a glacier or an ice shelf and is floating in open water.
6. An ocean current is a continuous, directed movement of seawater that flows from one part of the ocean to another.
7. Ozone is a special type of gas made of three oxygen atoms stuck together, unlike the normal oxygen we breathe, which has only two oxygen atoms.

Math

1. In math, probability is written as a number from 0 to 1 (or as a percentage from 0% to 100%).
2. A Möbius strip is a loop of paper with only one side and one edge
3. A graph is a visual drawing on a grid, or coordinate plane, that shows all the answers or solutions to an equation.

Physics

1. Nuclear fission is a physical process where the nucleus of an atom splits into two or more smaller nuclei, releasing a massive amount of energy.
2. Inertia is the natural tendency of an object to resist any change in its motion.

Terms for Further Study

1. Circuit
2. Photosynthesis
3. Ceratopsia
4. Arthritis
5. Big Bounce
6. Rube Goldberg
7. Margaret Hamilton
8. Cement
9. Scurvy
10. Gregor Mendel
11. Python
12. Waggle dance
13. Algal bloom
14. Shepherd moon
15. Scientific method
16. Baleen
17. Plum pudding model
18. Andromeda
19. Exxon Valdez oil spill
20. States of matter
21. Hippocrates
22. Project Gemini
23. Badlands
24. Tyndall effect
25. CFCs
26. Hans Lippershey
27. Mond process
28. Anders Johan Lexell
29. Gulf Stream
30. Eye