3rd Graders Only - Fast Facts (On the team schedule - 30 minutes)

Description: Teams will complete three answer grids in three rounds on the topics of Scientists, Ecology, Rocks & Minerals, Oceans, and Weather. This event will use scientists and vocabulary found in the science curriculum from the Virginia Department of Education in grades Kindergarten through 8th grade.

Participants per assigned Team Number: 2

- If your school has 1 team you will send 2 students
- If your school has 2 teams you will send 2 students per team number; team numbers may not intermix
- If your school has 3 teams you will send 2 students per team number; team numbers may not intermix

Teams need to bring: Pencils

Safety Requirements: None

The Competition:

Teams may not bring any information resources or other material into the event.

a. This competition will consist of 3 rounds. Each round will begin with the supervisor giving each team the same scoresheet that contains a grid which has 4 different science categories listed along the horizontal axis and 4 different letters listed along the vertical axis.
b. The test writer will determine the categories to be used in each round, ensuring that there is at least one valid answer for each category/letter combination. Categories must not be repeated within a grid or among the three grids used in competition. No letter can be repeated more than twice in the three grids.
c. Teams will have 5 minutes to complete each round. Teams will write a term, corresponding to the given category and beginning with the given letter, in each of the 16 boxes of the grid.
d. At the end of 5 minutes the event supervisor will stop the round. For each round all students should start and stop writing at the same time as directed by the event supervisor. Students beginning before or after the supervisor starts/stops the round will have their scoresheet not scored for that round.
e. A scoresheet without student names and school will not be scored resulting in that scoresheet not being added to the final score.
f. At the end of each round the supervisor will pick up all scoresheets. Then a new set of scoresheets will be distributed to students. This will be repeated for each of the 3 rounds.
g. Names of the categories must not be used in the answer.
h. If a correct response has more than one word, the 1st letter of the first word will be used (e.g., “D” is the 1st letter of “Doppler Effect”); Exceptions: The 1st letter of a word following the articles “the” or “a/an” will be considered the 1st letter of the term (e.g., “G” is the 1st letter for the term “The Grand Canyon”).
i. Students may not write two or more different forms of a response within a category to get credit for two or more different answers (e.g., Category - “Human Organs”, Letters - “I”, “L” and “S”, and the student writes “small intestine”, “large intestine” and “intestine”. The student would only get credit for “small intestine” and “large intestine” because these terms are the most precise of the three responses).
j. If the category asks for the name of a person, both the given (first) and surname (last) of a person must be written. The first letter of the surname must match the required letter (e.g., “C” – Marie Curie)
k. Incorrect spellings of the word will be allowed if the Event Supervisor is able to determine the intended term. However, the first letter of the response must be correct (e.g., “Krust” would not be allowed for “crust”).
l. All words must be found in an English based science dictionary. Abbreviations are not allowed.

Scoring:

1. The number of points earned depends upon the number of correct terms listed in a row and in a column. Points will be awarded as follows:
    a. One correct term in a row = 1 pt. One correct term in a column = 1 pt.
    b. Two correct terms in a row = 4 pts. Two correct terms in a column = 4 pts.
    c. Three correct terms in a row = 9 pts. Three correct terms in a column = 9 pts.
    d. Four correct terms in a row = 16 pts. Four correct terms in a column = 16 pts.
2. The round score will be determined by adding the scores from each of the rows and columns. Final score will be determined by adding all the round scores.
3. Highest total score wins.
4. Tiebreakers will be determined by the following sequence:
    a. Highest individual round score
    b. Second highest individual round score
    c. Most columns/rows with 4 correct
    d. Most columns/rows with 3 correct
    e. Most columns/rows with 2 correct
    f. Most columns/ rows with 1 correct

Sample score sheet:

Round 1	**Weather**	**Oceans**	**Ecology**	**Rocks**	**Row Scores**
C	Cloud		Climate		2
L	Lightning	Layers	Litter	Lode	4
M	Meteorology				1
T	Temperature	Tide			2
Column Scores	**4**	**2**	**2**	**1**	**CS=9 + RS=9**
					Total Score 18

Possible Resources:

- Division A will not release previous tests, or the exact resources used by the Event Supervisor or test writer for any events.
- **Use the listed resources and study guides as starting points. The study guide was created using Gemini AI and is meant as a beginning foundation! It may or may not contain topics occurring within the competition. It is up to the competitor to research further.**
    i. Science Standards of Learning | Virginia Department of Education

Study outline covering Scientists, Ecology, Rocks & Minerals, Oceans, and Weather, incorporating Virginia DOE science curriculum vocabulary and concepts for grades K-8:

Overall Theme: Exploring Our World Through Science

I. Scientists and the Scientific Process (Grades K-8)

- A. What is a Scientist? (K-2)

    - People who ask questions about the world.
    - People who observe and explore.
    - Examples of scientists and what they study (e.g., animal scientist, plant scientist, weather scientist).
    - Vocabulary: observe, explore, question, discover.
- B. How Scientists Work (Grades 3-5)
    - Asking questions and forming hypotheses (simple predictions).
    - Planning and conducting simple investigations/experiments.
    - Making observations and collecting data (using simple tools like rulers, thermometers, hand lenses).
    - Recording and sharing data (simple charts and graphs).
    - Drawing conclusions based on evidence.
    - Vocabulary: hypothesis, investigate, experiment, data, evidence, conclusion, record, measure.
- C. The Scientific Method (Grades 6-8)
    - Identifying a problem or question.
    - Forming a testable hypothesis.
    - Designing and conducting controlled experiments.
    - Identifying variables (independent, dependent, controlled).
    - Collecting, organizing, and analyzing data.
    - Drawing conclusions and communicating results.
    - Understanding that scientific knowledge is subject to change with new evidence.
    - Vocabulary: scientific method, variable, independent variable, dependent variable, controlled variable, analyze, interpret, theory, law.
- D. Famous Scientists and Their Contributions (Grades K-8 - age-appropriate examples)
    - Highlighting scientists relevant to the other topics (e.g., marine biologists for oceans, meteorologists for weather, geologists for rocks and minerals, ecologists for ecology).
    - Focus on their curiosity and contributions to our understanding.
    - Examples: Jane Goodall, Sylvia Earle, George Washington Carver, Marie Curie (simplified for younger grades).

II. Ecology: Living Things and Their Interactions (Grades K-8)

- A. Living and Nonliving Things (K-2)
    - Identifying characteristics of living things (need for food, water, air, growth, reproduction).
    - Distinguishing between living and nonliving things in different environments.
    - Vocabulary: living, nonliving, environment, grow, need.
- B. Habitats and Communities (Grades 3-5)
    - Defining habitat as a place where an organism lives and finds what it needs.
    - Exploring different types of habitats (forests, ponds, oceans, deserts).
    - Understanding that a community includes all the living things in a habitat.
    - Vocabulary: habitat, community, organism, shelter, resources.
- C. Food Chains and Food Webs (Grades 3-5)
    - Understanding the flow of energy in an ecosystem.
    - Identifying producers (plants), consumers (herbivores, carnivores, omnivores), and decomposers.
    - Illustrating simple food chains and recognizing that food webs show more complex interactions.
    - Vocabulary: food chain, food web, producer, consumer, herbivore, carnivore, omnivore, decomposer, energy.
- D. Interdependence and Ecosystems (Grades 6-8)
    - Exploring the relationships between living and nonliving components of an ecosystem.
    - Understanding concepts like competition, predation, symbiosis (mutualism, commensalism, parasitism).
    - Investigating how changes in an ecosystem can affect populations (e.g., introduction of a new species, habitat destruction).

    - Vocabulary: ecosystem, interdependence, population, competition, predation, symbiosis, mutualism, commensalism, parasitism, biodiversity.
- E. Adaptations (Grades 3-8)
    - How living things have special features (adaptations) that help them survive in their environment.
    - Examples of physical and behavioral adaptations in different organisms.
    - Vocabulary: adaptation, physical adaptation, behavioral adaptation, survival.

III. Rocks and Minerals (Grades K-8)

- A. What are Rocks? (K-2)
    - Observing and describing different types of rocks (size, shape, color, texture).
    - Understanding that rocks are made of different materials.
    - Vocabulary: rock, size, shape, color, texture.
- B. What are Minerals? (Grades 3-5)
    - Understanding that rocks are made of minerals.
    - Identifying basic properties of minerals (color, luster, hardness, streak).
    - Examples of common minerals.
    - Vocabulary: mineral, property, luster, hardness, streak.
- C. Types of Rocks (Grades 4-6)
    - Introducing the three main types of rocks: igneous, sedimentary, and metamorphic.
    - Understanding how each type is formed (cooling magma/lava, compaction and cementation of sediments, heat and pressure).
    - Examples of each rock type.
    - Vocabulary: igneous rock, sedimentary rock, metamorphic rock, magma, lava, sediment, compaction, cementation, heat, pressure.
- D. The Rock Cycle (Grades 6-8)
    - Understanding that rocks change over time in a continuous process called the rock cycle.
    - Illustrating the different pathways of the rock cycle.
    - Vocabulary: rock cycle, weathering, erosion, deposition.
- E. Uses of Rocks and Minerals (Grades K-8)
    - Exploring how rocks and minerals are used in everyday life (building materials, tools, jewelry, etc.).

IV. Oceans (Grades K-8)

- A. What are Oceans? (K-2)
    - Understanding that oceans are large bodies of saltwater.
    - Identifying major oceans on a map or globe.
    - Vocabulary: ocean, saltwater, map, globe.
- B. Ocean Habitats and Life (Grades 3-5)
    - Exploring different ocean zones (surface, deep ocean, coral reefs, etc.).
    - Identifying diverse plant and animal life in the ocean.
    - Understanding basic ocean food chains.
    - Vocabulary: ocean zone, marine, coral reef, plankton, food web.
- C. Ocean Currents and Tides (Grades 4-6)
    - Understanding that ocean water moves in currents.
    - Explaining the basic causes of tides (gravitational pull of the moon and sun).
    - Vocabulary: current, tide, gravity, moon, sun.
- D. Importance of Oceans (Grades 6-8)
    - Understanding the ocean's role in regulating climate.
    - Exploring ocean resources (food, minerals).
    - Discussing human impact on oceans (pollution, overfishing).
    - Vocabulary: climate, pollution, conservation, resource.
- E. Ocean Exploration and Scientists (Grades K-8)
    - Highlighting the work of marine biologists and oceanographers.

- Exploring tools and technologies used to study the ocean (submarines, remotely operated vehicles).

V. Weather (Grades K-8)

- A. What is Weather? (K-2)
  - Observing and describing different types of weather (sunny, cloudy, rainy, snowy, windy).
  - Identifying basic weather tools (thermometer, rain gauge, wind vane).
  - Vocabulary: weather, sunny, cloudy, rainy, snowy, windy, thermometer, rain gauge, wind vane.
- B. Measuring Weather (Grades 3-5)
  - Using simple tools to measure temperature, precipitation, wind speed, and wind direction.
  - Keeping simple weather records.
  - Vocabulary: temperature, precipitation, wind speed, wind direction.
- C. Clouds and Precipitation (Grades 3-5)
  - Identifying different types of clouds (cumulus, stratus, cirrus).
  - Understanding the different forms of precipitation (rain, snow, sleet, hail).
  - Vocabulary: cloud, cumulus, stratus, cirrus, precipitation, rain, snow, sleet, hail.
- D. Understanding Weather Patterns (Grades 4-6)
  - Exploring how air temperature and pressure affect weather.
  - Understanding the concept of fronts (cold and warm).
  - Identifying basic weather symbols on a weather map.
  - Vocabulary: air pressure, front, weather map.
- E. Severe Weather (Grades 6-8)
  - Learning about different types of severe weather (thunderstorms, hurricanes, tornadoes).
  - Understanding the conditions that lead to severe weather.
  - Discussing safety precautions during severe weather.
  - Vocabulary: thunderstorm, hurricane, tornado, meteorologist, warning, safety.
- F. The Water Cycle (Grades 4-8)
  - Understanding the continuous movement of water on, above, and below the surface of the Earth (evaporation, condensation, precipitation, collection).
  - Vocabulary: water cycle, evaporation, condensation, collection.