

2020 EVENT SUPERVISOR GUIDE – DISEASE DETECTIVES (B/C)

EVENT INFORMATION

DESCRIPTION – Disease Detectives allows students to use **their investigative skills** in the study of disease, injury, health, and disability in populations or groups of people.

NOTE: THE DISEASE DETECTIVES HAS THREE PARTS TO THE COMPETITION
EACH PART WILL BE ABOUT 1/3 OF THE EXAM
BE SURE TO REVIEW THE **2020 RULES** FOR TOPIC DETAILS

PART1 – BACKGROUND AND SURVEILLANCE

PART 2- OUTBREAK INVESTIGATION

PART 3-PATTERNS, CONTROL AND PREVENTION

RULES – Rules are available from your Tournament Director. They are now electronic.

- **2020** should appear at the bottom by the page number.
- BE SURE TO CHECK THE RULES for Event Parameters and suggested topics.
- At www.soinc.org see the **Event Information** and **Event Supervisor** sections.
- There are 4 handouts covering an overview and the 3 parts of the competition, practice activities, and a sample tournament available for students under Event Information. The training materials will show you what students expect to see.
- Rules clarifications are available at www.soinc.org under event information.

FORMAT – Disease Detectives may be exam based, station based, or a combination of both. *Because this competition takes a long time to grade, for larger tournaments it is often scheduled at the beginning of the day with all teams competing at the same time in larger competitions as large regions, state and national competitions.*

EVENT NEEDS

ROOM TYPE – Classroom when run as an inquiry-based exam or a room with tables if run as stations.

HELPERS – 2 or 3 helpers are needed to proctor and grade in addition to the event supervisor. If possible it is beneficial to have volunteers who are assigned to grading and others assigned to ranking. This is especially true if the event is run in 2 or more sessions. This ensures that the grading process is continuous and rushed.

EQUIPMENT – Any materials needed for the competition.

- One exam per team OR station setups for the number of stations being used.
- Grading keys for helpers
- One answer sheet per team
- Basic office supplies (pens, pencils, stapler, staple removers, etc.)

TIME NEEDED FOR SETUP

- If possible go by the event room prior (~1 hour) to the exam to properly arrange the room.
- When run as an inquiry-based exam, all teams can compete at once if a large enough room is available.
- You just need time to check in and distribute the exam and answer sheets.
- This event usually takes a long time to grade so it is a good idea to run it early in the day.
- Using an answer sheet helps to organize answers for students and makes grading quicker.

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PREPARATING FOR COMPETITION

TIME-LINE FOR PLANNING - You will need to know the number of teams competing.

- Teams consist of two students so plan accordingly. Be sure you have enough time to prepare the questions, answer keys, and answer sheets. Each team gets one exam and answer sheet.
- Writing a good exam takes time. If possible begin the writing process as soon as possible.
- Possible sources of outbreak scenarios are
 - [Morbidity and Mortality Weekly Report](#)
 - [Emerging Infectious Diseases](#)
 - [Journal of Infectious Diseases](#)
 - [Journal of the American Medical Association](#)
 - [New England Journal of Medicine](#)

ORGANIZING CONTENT – Be sure to cover the topics presented in the rules and give appropriate emphasis to each area.

WRITING QUESTIONS

- Student training materials, practice activities, and sample tournaments are posted on the Science Olympiad website www.soinc.org under Event Information that might assist you in writing questions.
- The CDC has information on their website www.cdc.gov/excite as well as previous exams.
- Competitions may be written using actual data from an outbreak or it may be a hypothetical outbreak with hypothetical data. We recommend developing a linelist of both cases and controls for hypothetical situations to minimize discrepancies between tables.
- A well-written Disease Detectives event is very similar to a case study.
- A good scenario should tell a story, include sufficient detail and use relatively simple methods to answer its research questions.
- CDC's Morbidity and Mortality Weekly Report (MMWR) is a good place to start (<https://www.cdc.gov/mmwr/publications/index.html#>).
- The philosophy of Science Olympiad is that the competition be inquiry-based to emphasize process skills and mental challenges using suggested content.
- Balance the content so that it reflects the content described in the rules. Students are expecting to see all of the topics listed in the rules to be reflected in the competition.
- A mix of question types is often used in a competition and allows for great flexibility in test formulation and student response timing.
- Multiple choice, matching, fill-in-the blank questions work well for background and general analysis.
- Free Response or Essay Questions require several words or a paragraph **and** should have a rubric to assist in scoring.
- Answers to short answer questions should require no more than one to two sentences and be very specific.
- Graphs and tables are good potential source of questions.
- Calculations and interpretation of rates, ratios and proportions are good analysis tools.
- Develop appropriate questions so that **all** ties can be broken.
- Be sure that all teams experience the same testing conditions.

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VARYING DIFFICULTY FOR SUCCESS OF MANY - To allow most students to be successful, it may be a good idea to vary the difficulty of questions!

ANSWER SHEET ORGANIZATION – Set up the answer sheet so it is easy for students to use and easy for your team to grade. Include team name, team number, student names, as well as a place to record raw score, rank, and points. Be sure you have enough answer sheets for each team. It may be a good idea to put team names and numbers on the answer sheets ahead of time.

ANSWER KEY AND SCORING RUBRICS

- Questions will be assigned point values.
- Students will be ranked from highest to lowest score.
- Ties will be broken by pre-determined tie-breaker questions.
- Have extra answer sheets so your helpers can assist you in grade the competition.
- Be sure each section is graded by the same person.

RUNNING THE EVENT

SET UP TIPS (Exam format)

- Be sure you have a copy of the exam for each team.
- It may be advisable to have a separate answer sheet for each team.
- The answer sheet will provide ease of recording answers and speed up grading.

CHECK IN TIPS– if possible, allow all teams to compete even if one or both members are late. They may need to miss some things but they can do part of the competition.

- Check each team member for wrist bands or approved ID before giving teams their answer sheet.
- Have each team sign in when they enter the room. This is the only way you will have to differentiate between no-shows and missing answer sheets.
- Check note sheets. Each team is allowed one double-sided sheet. Staple two single-sided sheets together
- Have extra pencils and direct students print their names on sheet.
- Direct student to turn off all non-permitted electronic devices. You may wish to have them put in a designated spot, given to someone outside the room or placed in the student back packs at some to be stored at a designated spot in the room.
- Allow each team to have only what is permitted in the Event Parameters.

TEST FORMAT:

- Hand out test packet just before the event is to begin.
- Give any directions needed.
- Two or three helpers can do the proctoring.
- If the event is run in sessions, begin grading after the first session.
- Helpers can help with grading as long as there is consistency in grading.

DEALING WITH PROBLEM SITUATIONS – have the cell phone numbers of officials

- **DISQUALIFICATIONS OF A TEAM SHOULD BE RESTRICTED TO SAFETY ISSUES, CHEATING, OR ABUSIVE AND UNSPORTSMAN-LIKE BEHAVIOR.**
- Be sure that tournament officials and coaches are notified of any disciplinary action.

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CHECK OUT TIPS

- Be sure to get an answer sheet and exam from each team before you allow them to leave the competition.
- Be sure the team number, team names and member names are present and legible.
- Remind students to take all their backpacks and other possessions as cell phones.

SCORING THE EVENT – DO NOT GIVE OUT RESULTS ANY TEAM OR COACH.

CONSISTANCY IN GRADING – have the same person grade the same section for all teams.

CHECKING MATH AND RANKING – Be sure to check the math and ranking for all teams so they are accurate. Scoring worksheets or computer programs may be available to help with ranking.

BREAKING TIES – Break all ties and indicate on the student answer sheets and score sheet how the tie was broken. The **DECIMAL METHOD** is a good way to indicate the winner of ties. Example: If two teams have the raw score tie of 83 for, the winner of the tie gets 83.1 while the other teams gets 83.0. If several ties are broken, you have .1 to .9 to use. This also points out scores where ties were broken.

SCORE SHEET – Fill in all information on the score sheet. Indicate how the raw scores are ranked – high score, low score or some other method. Be sure to include raw score, rank and points for each team. Explain how ties are broken.

SCORE COUNSELING

- Have your score sheet completed and signed before going to score counseling
- Arrange student score sheets in rank order for quick checking.
- Turn in answer sheets, a copy of the test and an answer sheet to the Score Counselor

I hope these suggestions are helpful in organizing your tournament. Comments or new ideas are always welcome. Please send them to me at the following address.

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