

RADON BOWL

OBJECTIVES

The Radon Bowl will provide an opportunity for teams of four contestants to study and learn about radon and demonstrate their knowledge in a competitive setting where attitudes of friendliness, fairness and excitement prevail.

PRELIMINARY INSTRUCTIONS

Each contestant will be given a publication about radon. All of the questions asked in the bowl competition will be taken from it. These should be available to contestants several days in advance of the bowl.

Pairings for each round of bowl competition will be drawn at random just before the round.

EQUIPMENT

Panels - Two interconnecting panels, each to accommodate four contestants plus a moderator panel with suitable controls are to be used. The equipment will be checked prior to the start of each round of competition.

Time keeping device – A stop watch or other appropriate device is to be used.

Score keeping device – This may be a blackboard or flip chart.

Questions – A packet of questions for each round shall be prepared in advance. If there are several acceptable answers to a question, all answers shall be listed.

Setup – See attached diagram for a sample bowl contest setup.

OFFICIALS

Moderator (Quiz Master) – The moderator assumes complete direction of all rounds, asks all questions, designates contestants to answer questions, accepts or reject all answers unless over-ruled by the referee judges, but may seek interpretation of questions which are ruled on unanimously.

Referee Judge – One or two judges may be used.

Time-keepers – One or two time-keepers will be used to indicate to the moderator the expiration of the time allowed in which to answer questions. The time-keepers may be one or both of the referee judges.

Score-keepers – One or two individuals will keep score on each round.

PROCEDURE OF PLAY

Starting the Contest

1. Teams are assembled and seated at their respective panels.
2. The team captains shall be seated nearest the moderator.
3. The question packet is opened by the moderator.

Part I

4. A coin is tossed to determine which team captain will answer the first question.
5. The second question will be answered by the captain of the opposing team. Succeeding questions will be asked alternately of each team, and rotated among team members, until all questions have been asked.
6. Only the designated team member may answer the question. The member has 10 seconds to begin the answer.
7. If the answer is correct, 10 points will be awarded the team. No points will be given for partial or incorrect answers.

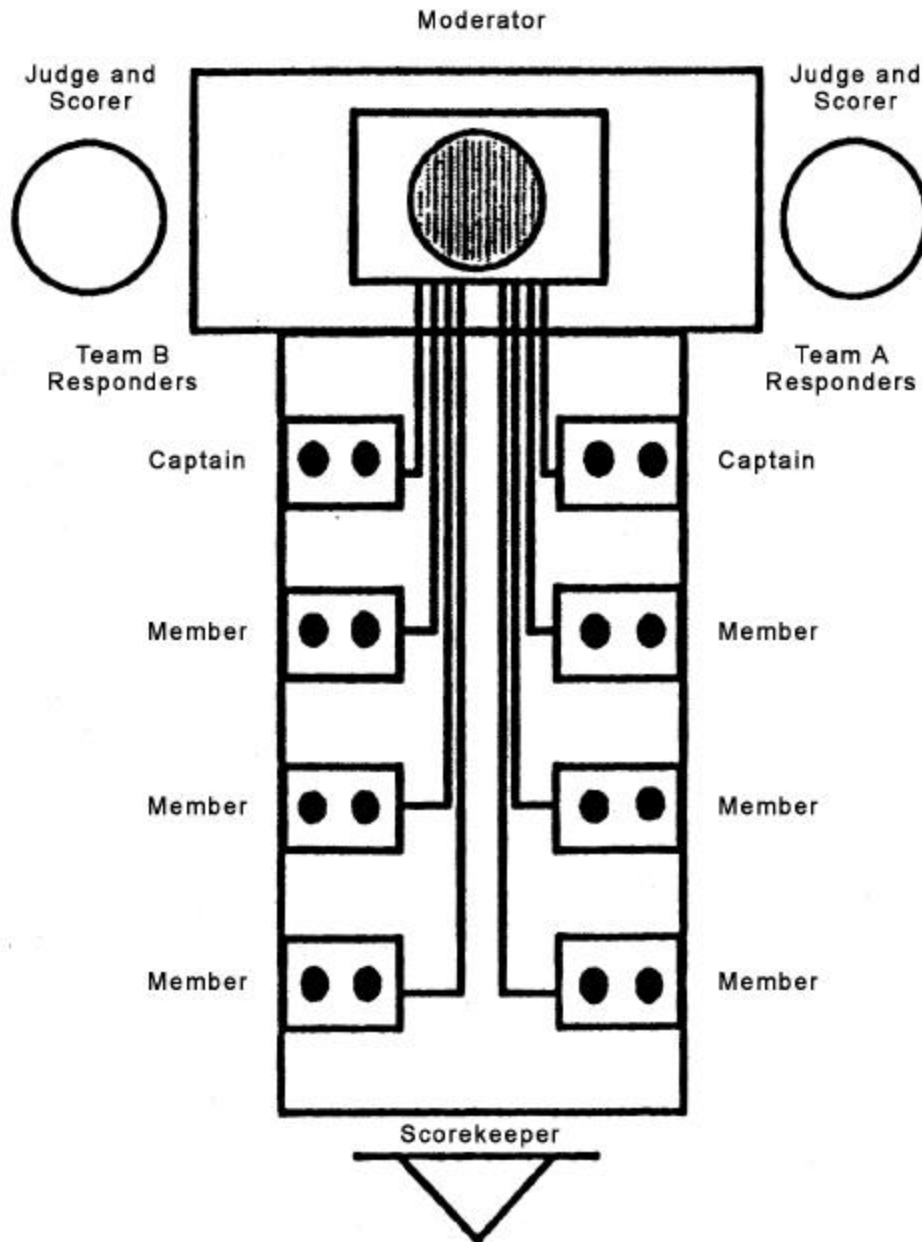
Part 2

8. Part 2 begins with the moderator reading a toss-up question (as with all succeeding questions) until a contestant activates a buzzer.
 - a. If a buzzer is activated during the reading of any question, the moderator immediately will cease reading the question and the contestant activating the buzzer shall begin the answer based on that portion of the question read.
 - b. If the answer given is incorrect, or no answer is given, five points are taken from that team's score and the moderator restates the question. The opposing team then has 10 seconds for any member to activate the buzzer and answer the question. If the answer is incorrect, five points will be taken from that team's score. No team consultation is permitted.
9. At the completion of the reading of a question or when a buzzer is activated, 10 seconds are permitted in which to begin an answer. The answer will be given by the contestant activating the buzzer. No consultation on toss-up questions is permitted. It shall be the responsibility of the moderator to determine if an actual answer is started within this ten-second period.
10. If the time in which to answer a question elapses without a contestant activating the buzzer, the question is discarded.

Completing the Contest

1. The moderator will continue reading toss-up questions until all toss-up questions have been asked or 30 minutes have elapsed, whichever comes first, except in the last round that may last 45 minutes or less.
2. Following the final question, the scores of the two score-keepers shall be compared. If there is disagreement as to the score of the game, the score that is tabulated on the written score card will be used.

SUGGESTED BOWL SETUP





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RADON BOWL QUESTIONS

NOTE: The following information is taken from the publication, "A *Citizen's Guide To Radon* (Second Edition) -The Guide to Protecting Yourself And Your Family From Radon."

True or False

There is no known safe level of radon. *(True)*

If you determine high levels of radon in your home and you have a contractor to make repairs to reduce radon in your home, what should you do once the repairs are completed? *(Test again)*

Which state office is the best source for names of qualified or state certified radon contractors in your area? *(State Health Dept. OR State radon office)*

True or False

If you are exposed to elevated levels of radon, you will develop lung cancer. *(False -- not everyone exposed to radon develops lung cancer)*

The habit of _____ combined with radon is an especially serious health risk. *(Smoking)*

According to the booklet, "A Citizen's Guide to Radon," your chances of getting lung cancer from radon depend mostly on three things. Name them.

*How much radon is in your home
The amount of time you spend in your home
Whether you are a smoker or have ever smoked*

True or False

High radon levels have been found in every state. *(True)*

True or False

If your neighbor's house has a high level of radon, it's likely your house has a high level of radon, as well. *(False - Radon levels vary from home to home. Test!)*

True or False

Everyone who gets water from a well should test the water for radon. *(False - Test the air in the home first. If high, then test water.)*

Radon levels can be reduced in most homes to how many picocuries per liter of air? *(2 pCi/l)*

True or False

Treating water for radon at the point of use is more effective than treating water at point of entry.

(False - The most effective treatment is to remove radon from the water before it enters the home. Point of use treatment will not reduce most of the inhalation risk from radon.)

True or False

Research suggests that swallowing water containing radon poses a greater risk than breathing air-containing radon.

(False - Risk of swallowing water with radon is believed to be much lower than that from breathing air containing radon.)

Radon is a gas that comes from the natural decay of _____ that is found in nearly all soils.

(uranium)

Radon typically moves up through the ground to the air above and into your home through _____ in the foundation.

(Cracks OR holes)

True or False

Nearly 1 out of every 15 homes in the U.S. is estimated to have elevated radon levels.

(True)

What does radon smell like?

(No smell)

Name five ways radon can get into your home.

- 1. cracks in solid floors*
- 2. construction joints*
- 3. cracks in walls*
- 4. gaps in suspended floors*
- 5. gaps around sewer pipes*
- 6. cavities inside walls*
- 7. water supply*

What measurement term is used to describe the amount of radon in a liter of air?

(Picocuries)

When selecting a radon test kit, be sure to choose one that has been certified by

(EPA OR State certified)

Radon can be found in any type of building - homes, offices, and schools. Where are you most likely to get the greatest exposure and why?

(Home – because you spend the most time there)

Name two general types of tests for determining the radon level of the air in your home.

(Short-term & Long-term tests)

Which type of radon test will more likely tell you your home's year-round average radon level?

(Long-term test or Alpha Track)

Long-term test kits remain in your home for more than _____ days.

(90 days)

True or False

One of the first places you should test for radon in your home is the bathroom, since radon can seep in through the plumbing.

(False - high humidity in bathroom)

True or False

When using a test kit in your home, place it directly on the floor and leave it undisturbed for the suggested number of days.

(False - place it 20" above floor)

You should take action to reduce radon in your home if the test shows pCi/l or higher.

(4)

True or False

It is estimated that radon causes more deaths each year than drowning, fires, or plane crashes.

(True)

Radon is estimated to cause how many deaths per year:

- A. 140 Deaths
- B. 1,400 Deaths
- C. 14,000 Deaths

(C)

True or False

Radon is the number one cause of lung cancer in the United States.

(False)

True or False

Newer homes are safer from radon than older homes because they are built better.

(False)

True or False

A strong smell of rotten eggs in your basement is a good indication your home has radon.

(False)

Name one type of test kit used for long-term testing.

(Alpha-Track, or Electret)

True or False

The best place to hang your radon test kit is in the attic since the gas rises into the attic.

(False)

Before doing a short-term test you should close your windows and doors at least _____ hours before the test.

(12)

True or False

New homes built with radon-resistant features will usually keep radon levels below 2 pCi/l.

(True)

True or False

Radon test kits are very expensive and you should only test if you suspect a problem.

(False)

True or False

Radon causes more deaths every year than drunk driving

(False)

True or False

If your home receives water from a public water supply, it is very unlikely to have high levels of radon.

(True)

Some contractors may have an "RCP" card from the EPA. What does RCP stand for?

(Radon Contractor Proficiency Program)

What 2 things must a contractor do before he can receive an RCP card?

(He must be trained to fix radon problems and take a certification test)

True or False

If you have lived in your house for more than 10 years and no one in your family has lung cancer, your house is probably safe and does not need to be tested.

(False)

True or False

The cost of fixing a home with high radon levels can be from \$1200 - \$2,500 for most homes.

(True)

True or False

If a home has high levels of radon, you are 10 times more likely to develop skin cancer.

(False - radon does not cause skin cancer)

What is the name of the book you studied for this Radon Quiz Bowl?

(A Citizen's Guide to Radon)

Most test results give the results in picocuries per liter, however some tests may give the results in "WL". What does WL stand for?

(working levels)