Note: This alternative text version is intended only for employees with disabilities that use Assistive Technology. Since completion of text version cannot be automatically tracked, please notify your supervisor once you have read and understood the course, to ensure that you receive proper credit for completing the training.

EPA

Training on the EPA's Scientific Integrity Policy

Course Outline

Part 1:

- Introduction
- EPA's 2012 Scientific Integrity Policy
- Applicability of the Scientific Integrity Policy – Who Does this Policy Affect?
- Principles of Scientific Integrity
- Promoting a Culture of Scientific Integrity
- Release of Scientific Information to the Public

TEST 1:

- Consists of 3 questions.

Part 2:

- Peer Review and Use of Federal Advisory Committees
- Professional Development of Government Scientists
- Scientific Integrity Committee
- Scientific Misconduct
- Addressing Scientific Misconduct
- Contact Information

TEST 2:

- Consists of 2 questions.

SUMMARY

FINAL TEST:

- Consists of 5 questions.

Scientific Integrity

Purpose of this Course

This course is designed to familiarize you with the EPA's Scientific Integrity Policy.

Once you complete the course, print out the certificate and keep a copy for your records.

Introduction

Science is the backbone of the EPA's decision-making. The agency's ability to pursue its mission to protect human health and the environment depends upon the integrity of the science on which it relies.

The environmental policies, decisions, guidance, and regulations that impact the lives of all Americans every day must be grounded, at the most fundamental level, in sound, high quality science.

When working with science, it is the responsibility of every EPA employee to conduct, utilize, and communicate science with honesty, integrity, and transparency, both within and outside the Agency.

Origins of the Agency's Scientific Integrity Policy

On March 9, 2009, President Obama issued an executive memorandum that articulated the need for sound science to inform and guide agency decisions.

In response, in 2010, the Office of Science and Technology Policy (OSTP) provided foundational principles and specific expectations for scientific integrity in the Federal government. In particular, OSTP asked the Federal agencies to develop scientific integrity policies that included four areas:

- Scientific integrity in government;
- Public communications;
- Use of Federal Advisory Committees; and,
- Professional development of government scientists and engineers.

In February 2012, EPA enacted a new Scientific Integrity Policy that built on our long history of scientific safeguards and further ensures that sound science drives Agency decision making.

Note: The draft policy was open for public comment and the final policy incorporated stakeholder input from the EPA Science and Technology Policy Council, OSTP, the public, and our Agency scientists.

EPA's 2012 Scientific Integrity Policy

To promote scientific integrity throughout the Agency, the EPA's Scientific Integrity Policy addresses four specific areas:

- The culture of scientific integrity at the EPA;
- Release of scientific information to the public;
- The use of peer review and Federal Advisory Committees; and,
- Professional development of government scientists.

In addition, the 2012 policy established the Scientific Integrity Committee, chaired by the Agency's Scientific Integrity Official, to implement the policy.

Who Does This Policy Affect?

All EPA employees, including scientists, managers, and political appointees, are required to follow the Scientific Integrity Policy when:

- Engaging in, supervising, managing, or influencing scientific activities;
- Communicating information in an official capacity about Agency scientific activities; and,
- Utilizing scientific information in making Agency policy or management decisions.

In addition, all contractors, grantees, collaborators and student volunteers of the Agency who engage in scientific activities are expected to uphold the standards established by this policy and may be required to do so as part of their respective agreements with the EPA.

Principles of Scientific Integrity

The Agency has long fostered a culture of scientific integrity through its Principles of Scientific Integrity:

- Ensure that the Agency's scientific work is of the highest quality, free from political interference or personal motivations.
- Represent his/her own work fairly and accurately.
- Appropriately characterize, convey, and acknowledge the intellectual contributions of others.
- Avoid conflicts of interest and ensure impartiality.
- Be cognizant of and understand the specific programmatic statutes that guide their work.
- Welcome differing views and opinions on scientific and technical matters as a legitimate and necessary part of the scientific process.
- Accept the affirmative responsibility to report any breach of the Scientific Integrity Policy.

Consistent with these Principles, the Agency's Scientific Integrity Policy reaffirms the expectation that all Agency employees, including scientists, managers, and political appointees, regardless of grade level, position, or duties, uphold these principles.

Promoting a Culture of Scientific Integrity

Successful application of science in Agency policy decisions relies on the integrity of the scientific process both to ensure the validity of scientific information and to engender public trust in the Agency.

It is essential that the EPA's policymakers involve science experts on scientific issues and that the scientific information and processes relied upon in policymaking manifest scientific integrity, quality, rigor, and objectivity.

The Agency reaffirms and promotes scientific integrity across the EPA by supporting the culture of scientific integrity, enhancing transparency within scientific processes, and protecting Agency scientists.

Promoting a Culture of Scientific Integrity

The Scientific Integrity Policy:

- Prohibits all EPA employees, including scientists, managers, and other Agency leadership, from suppressing, altering, or otherwise impeding the timely release of scientific findings or conclusions.
- Prohibits managers and other Agency leadership from intimidating or coercing scientists to alter scientific data, findings, or professional opinions or inappropriately influencing scientific advisory boards.
- Extends whistleblower protections to all EPA employees who uncover or report allegations of scientific and research misconduct, or who express a differing scientific opinion, from retaliation or other punitive actions.

U.S. EPA Scientific Integrity Policy: Promoting a Culture of Science Integrity

NOTE: It is important to recognize the distinction between scientific information, analyses, and results, and the policy decisions made based on that scientific information; policy makers within the Agency weigh the best available science, along with additional factors such as practicality, economics, and societal impact, when making policy decisions.

Release of Scientific Information to the Public

Scientific research and analysis comprise the foundation of all major EPA policy decisions. They also provide essential information to the scientific community and to the public. Therefore, the Agency should maintain vigilance toward ensuring that scientific research and results are presented openly and with integrity, accuracy, timeliness, and the full public scrutiny demanded when developing sound, high-quality environmental science.

The EPA strongly encourages and supports transparency and active, open communications through various forms including, but not limited to, publication in peer-reviewed or refereed journals, conference papers and presentations, media interviews, responses to Congressional inquiries, web postings, and news releases.

Release of Scientific Information to the Public

Full and open communication is a shared responsibility throughout the Agency. To fulfill this shared responsibility, the policy describes in detail what is expected of the EPA's employees and what they, in turn, can expect from others in the Agency.

For example, the policy states that Agency scientists and managers are expected to notify their managers when communicating in an official Agency capacity.

Outreach activities and media interactions are expected to adhere to Agency regulations, including ethics rules, applicable law, and office clearance procedures associated with ensuring accuracy and disseminating scientific information and scientific assessments.

U.S. EPA Scientific Integrity Policy: Release of Scientific Information to the Public

Multiple Choice: Scenario 1 – Official Capacity

Dr. Funt, a Biologist with an EPA Office of Research and Development laboratory in Springfield, does research on the effect of acid rain on salmon habitats as part of his official duties. Dr. Funt has been invited to address the Fishing Club of Springfield on some of the ecological issues pertinent to Springfield, including talking about his research at EPA on salmon habitats. He would like to address the Club in an official Agency capacity. Does he need to notify his manager?

A. Dr. Funt can talk to the Fishing Club about his research without informing anyone at his laboratory – after all it is his research.

B. Dr. Funt needs to get supervisory approval for his presentation prior to giving his talk since he plans to talk to the club in an official Agency capacity.

C. It is not a big deal - Dr. Funt can inform his direct supervisor after giving his talk.

Multiple Choice: Scenario 1 – Official Capacity

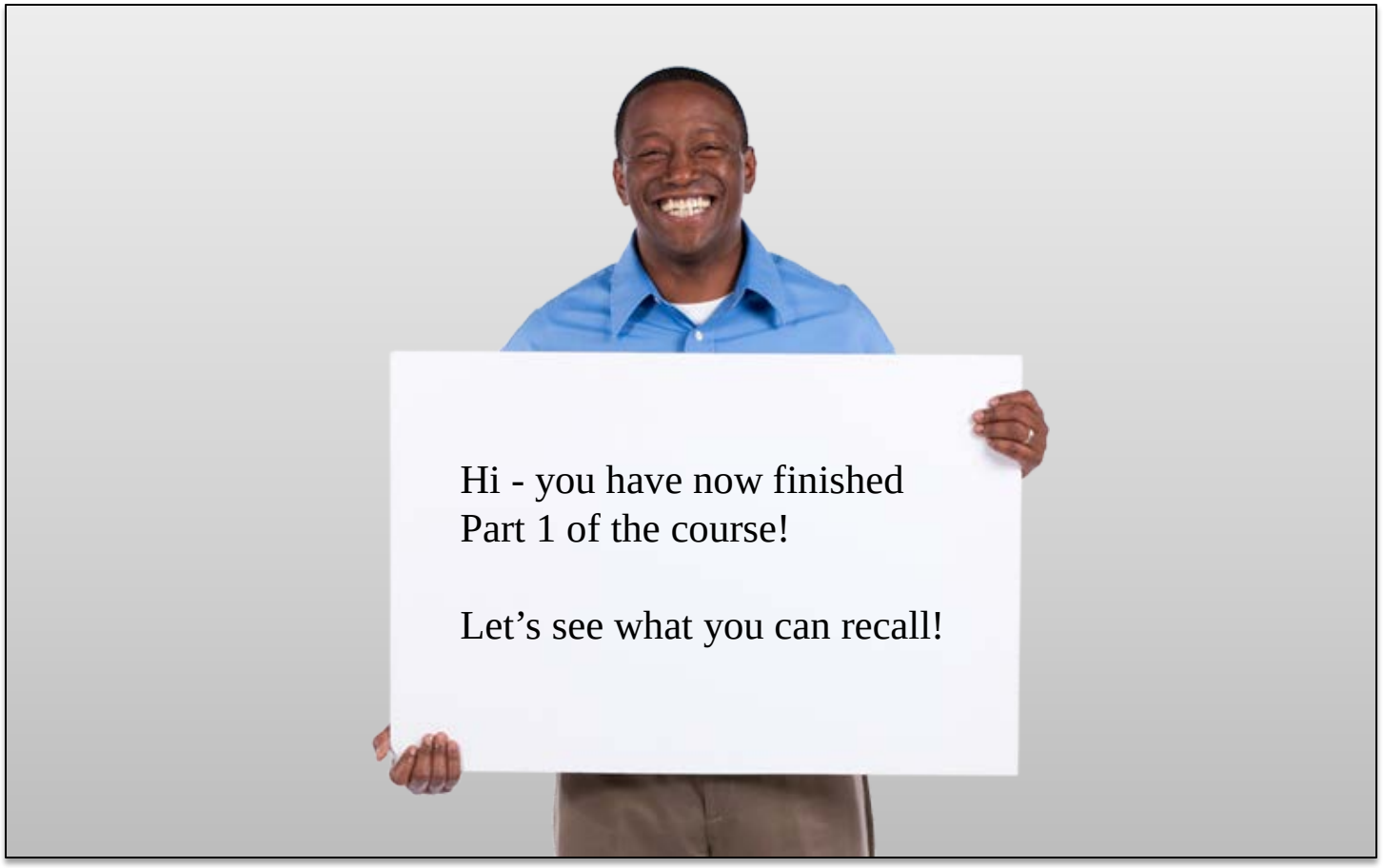
Dr. Funt, a Biologist with an EPA Office of Research and Development laboratory in Springfield, does research on the effect of acid rain on salmon habitats as part of his official duties. Dr. Funt has been invited to address the Fishing Club of Springfield on some of the ecological issues pertinent to Springfield, including talking about his research at EPA on salmon habitats. He would like to address the Club in an official Agency capacity. Does he need to notify his manager?

A. Dr. Funt can talk to the Fishing Club about his research without informing anyone at his laboratory – after all it is his research.

B. (CORRECT ANSWER)
Dr. Funt needs to get supervisory approval for his presentation prior to giving his talk since he plans to talk to the club in an official Agency capacity.

C. It is not a big deal - Dr. Funt can inform his direct supervisor after giving his talk.

Part 1 Completed



Multiple Choice

Agency policy decisions are made based on:

A. Scientific information, analyses, and results only.

B. Economic considerations only.

C. The best available science, along with additional factors such as practicality, economics, and societal impact.

Multiple Choice

Agency policy decisions are made based on:

A. Scientific information, analyses, and results only.

B. Economic considerations only.

C. (CORRECT)
The best available science, along with additional factors such as practicality, economics, and societal impact.

Multiple Choice

All employees, including scientists, managers, and political appointees, are required to follow the Scientific Integrity Policy when:

A. Engaging in, supervising, managing, or influencing scientific activities.

B. Communicating information in an official capacity about Agency scientific activities.

C. Both of the above.

Multiple Choice

All employees, including scientists, managers, and political appointees, are required to follow the Scientific Integrity Policy when:

A. Engaging in, supervising, managing, or influencing scientific activities.

B. Communicating information in an official capacity about Agency scientific activities.

C. (CORRECT) Both of the above.

True/False

The Scientific Integrity Policy does not prohibit managers and other Agency leadership from intimidating or coercing scientists to alter scientific data, findings, or professional opinions or inappropriately influencing scientific advisory boards.

A. True

B. False

True/False

The Scientific Integrity Policy does not prohibit managers and other Agency leadership from intimidating or coercing scientists to alter scientific data, findings, or professional opinions or inappropriately influencing scientific advisory boards.

A. True

B. (CORRECT) False

Part 2

Part 2 includes information on the following topic areas from the Scientific Integrity Policy:

- Peer Review and Use of Federal Advisory Committees
- Professional Development of Government Scientists
- Scientific Integrity Committee
- Scientific Misconduct
- Addressing Scientific Misconduct

Peer Review and the Peer Review Handbook

Independent peer review of Agency science is a crucial aspect of scientific integrity. To ensure that scientific products undergo appropriate peer review by qualified experts, the EPA relies on its Peer Review Policy and Peer Review Handbook.

The Peer Review Handbook is a how-to manual used by Agency staff.

The handbook includes specific expectations for categories of scientific products, including influential scientific information (ISI) and highly influential scientific assessments (HISA).

Peer Review and the Peer Review Handbook

In addition, the 2009 Addendum to the EPA's Peer Review Handbook entitled: "Appearance of a Lack of Impartiality in External Peer Reviews" provides additional clarity for the regulatory definition of "appearance of a lack of impartiality" for individuals who serve on peer review panels, criteria for applying this definition, and illustrative examples.

How Does Peer Review Enhance Scientific Credibility?

Peer review ensures that EPA's science is examined by qualified experts who were not part of the generation of the scientific work product. EPA's Peer Review Handbook gives guidance on conducting a peer review, including selection of peer reviewers to ensure that the review is unbiased.

Peer Review Supporting Guidance

The Agency's quality assurance is further supported by its Summary of General Assessment Factors for Evaluating the Quality of Scientific and Technical Information. This document describes the assessment factors and considerations used by the Agency to evaluate the quality and relevance of scientific and technical information.

These assessment factors are founded in guidelines, practices, and procedures that constitute the EPA's information and quality systems, including existing program-specific quality assurance policies.

Use of Federal Advisory Committees

Federal Advisory Committees (FACs) are an important tool within the EPA for ensuring the credibility and quality of Agency science, enhancing the transparency of the peer review process, and providing for input from the EPA's diverse customers, partners, and stakeholders.

In almost all cases, FACs meet and deliberate in public and materials prepared by or for the FAC are available to the public.

For more information on Federal Advisory Committees, see:

- U.S. EPA Scientific Integrity Policy: Peer Review and the Use of Federal Advisory Committees
- The Federal Advisory Committee Act (5 USC Appendix 2)
- Implementing regulations from the General Services Administration (41 CFR Part 102-3)
- Guidance that lobbyists not serve on FACs

Professional Development of Government Scientists

Scientific leadership is a key component of advancing the mission of the EPA. Agency scientists are therefore encouraged to engage with their peers in academia, industry, government, and non-governmental organizations, consistent with their work responsibilities and subject to the availability of appropriated funds.

Examples of encouraged professional activities include presenting work at scientific meetings, serving on editorial boards and on scientific expert review panels, and actively participating in professional societies and national/international scientific advisory and science assessment bodies.

U.S. EPA Scientific Integrity Policy: Professional Development of Government Scientists

Scientific Integrity Committee

The policy established a standing Scientific Integrity Committee.

The committee is chaired by the Agency's Scientific Integrity Official and consists of Deputy Scientific Integrity Officials that represent each of the Agency's Program Offices and Regions, in accordance with the committee's charter.

In addition to chairing the committee, the Scientific Integrity Official coordinates with EPA's Office of the Inspector General on allegations of scientific integrity issues.

Scientific Integrity Committee

Roles and Responsibilities:

- Provide leadership for the Agency on scientific integrity.
- Implement the Scientific Integrity Policy across the Agency in a consistent manner.
- Promote Agency compliance with the policy, including safeguarding against, and mechanisms to ensure accountability for, any alteration or manipulation of scientific data by managers and other Agency leadership.
- Address Scientific Integrity Policy concerns, updates, and amendments.

[EPA's Scientific Integrity Committee List]

What Does Scientific Misconduct Include?

Scientific misconduct includes fabrication, falsification, or plagiarism in proposing, performing or reviewing scientific and research activities, or in the publication or reporting of these activities.

Scientific misconduct does not include honest error or differences of opinion.

Addressing Scientific Misconduct

The Scientific Integrity Official or his/her designee coordinates with the Office of the Inspector General (OIG) on issues of scientific misconduct. The Agency already has in place clearly articulated policies and procedures protecting against scientific misconduct by all Agency employees, including managers and other Agency leadership, in the following two important documents:

- Scientific Misconduct in the *EPA Conduct and Discipline Manual* (Appendix - Guidance on Corrective Discipline, Tables of Offenses and Penalties #45 - Scientific Misconduct) includes discipline guidelines for fabrication, plagiarism, misrepresentation, and causing a subordinate to engage in scientific misconduct.

- Policy and Procedures for Addressing Research Misconduct (EPA Order 3120.5) (PDF) (12 pp, 101 KB) provides policy and procedures on reporting, procedures, investigations, and adjudication of research misconduct by the EPA's employees, contractors, and recipients of assistance agreements.

Part 2 Completed

Multiple Choice

The Scientific Integrity Committee is chaired by the Agency's

A. Administrator

B. Scientific Integrity Official

C. Deputy Administrator

D. Ethics Official

Multiple Choice

The Scientific Integrity Committee is chaired by the Agency's

A. Administrator

B. (CORRECT) Scientific Integrity Official

C. Deputy Administrator

D. Ethics Official

True/False

Presenting your research at a scientific meeting is an example of encouraged professional activity at the Agency.

A. True

B. False

True/False

Presenting your research at a scientific meeting is an example of encouraged professional activity at the Agency.

A. (CORRECT) True

B. False

Summary

EPA's Scientific Integrity Policy was established in 2012.

The policy addresses four specific areas:

- The culture of scientific integrity at the EPA
- Public communications
- The use of peer review and Federal Advisory Committees
- Professional development of government scientists

The Policy establishes a standing Scientific Integrity Committee, chaired by the Agency's Scientific Integrity Official.

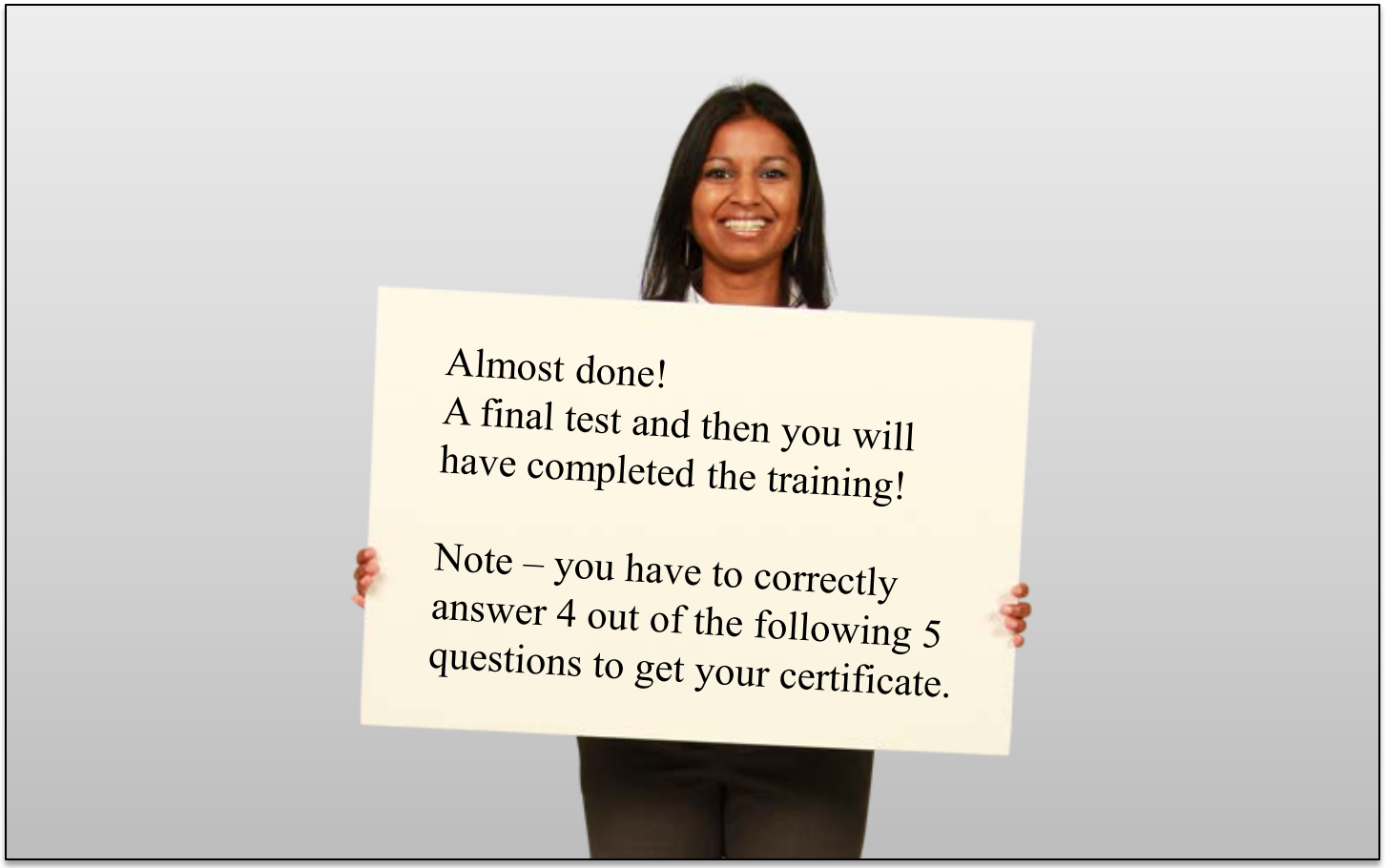
The Policy also incorporates EPA's Principles of Scientific Integrity.

The Policy is applicable to all EPA employees including scientists, managers, and political appointees.

Contact Information

- Scientific Integrity Committee - Member List
- Ethics Officials list

Almost Done!


Almost done!
A final test and then you will have completed the training!
Note – you have to correctly answer 4 out of the following 5 questions to get your certificate.

Question 1 of 5

All EPA employees, including scientists, managers, and political appointees, are required to follow the Scientific Integrity Policy when:

A. Engaging in, supervising, managing, or influencing scientific activities

B. Communicating information in an official capacity about Agency scientific activities

C. Utilizing scientific information in making Agency policy or management decisions

D. All of the above

Question 1 of 5

All EPA employees, including scientists, managers, and political appointees, are required to follow the Scientific Integrity Policy when:

A. Engaging in, supervising, managing, or influencing scientific activities

B. Communicating information in an official capacity about Agency scientific activities

C. Utilizing scientific information in making Agency policy or management decisions

D. (CORRECT) All of the above

Question 2 of 5

The Principles of Scientific Integrity include:

A. Avoid impartiality

B. Discourage differing views and opinions on scientific and technical matters

C. Be cognizant of and understand the specific programmatic statutes that guide your work

Question 2 of 5

The Principles of Scientific Integrity include:

A. Avoid impartiality

B. Discourage differing views and opinions on scientific and technical matters

C. (CORRECT) Be cognizant of and understand the specific programmatic statutes that guide your work

Question 3 of 5

Scientific misconduct includes honest error and differences of opinion.

Is this true?

A. Yes

B. No

Question 3 of 5

Scientific misconduct includes honest error and differences of opinion.

Is this true?

A. Yes

B. (CORRECT) No

Question 4 of 5

Peer Review enhances scientific credibility by:

A. Ensuring that EPA science is examined by qualified experts who are part of the generation of the scientific work product.

B. Ensuring that EPA science is examined by qualified experts who are not part of the generation of the scientific work product.

C. Ensuring that EPA science is examined by unqualified experts who were not part of the generation of the scientific work product.

Question 4 of 5

Peer Review enhances scientific credibility by:

A. Ensuring that EPA science is examined by qualified experts who are part of the generation of the scientific work product.

B. (CORRECT) Ensuring that EPA science is examined by qualified experts who are not part of the generation of the scientific work product.

C. Ensuring that EPA science is examined by unqualified experts who were not part of the generation of the scientific work product.

Question 5 of 5

Which is a role of the Scientific Integrity Committee?

A. To promote Agency compliance with the Policy, including safeguarding against, and mechanisms to ensure accountability for, any alteration or manipulation of scientific data

B. Enhancing the transparency of the peer review process

C. To provide approval to those undertaking an activity in private citizen capacity

Question 5 of 5

Which is a role of the Scientific Integrity Committee?

A. (CORRECT) To promote Agency compliance with the Policy, including safeguarding against, and mechanisms to ensure accountability for, any alteration or manipulation of scientific data

B. Enhancing the transparency of the peer review process

C. To provide approval to those undertaking an activity in private citizen capacity

Thank You

Thank you for taking this training course.