

# THE SCIENTIFIC METHOD

1. Experiment
2. Formulate Hypothesis
3. Analyze your results
4. From Reliable Model
5. Ask Question
6. Make Observations

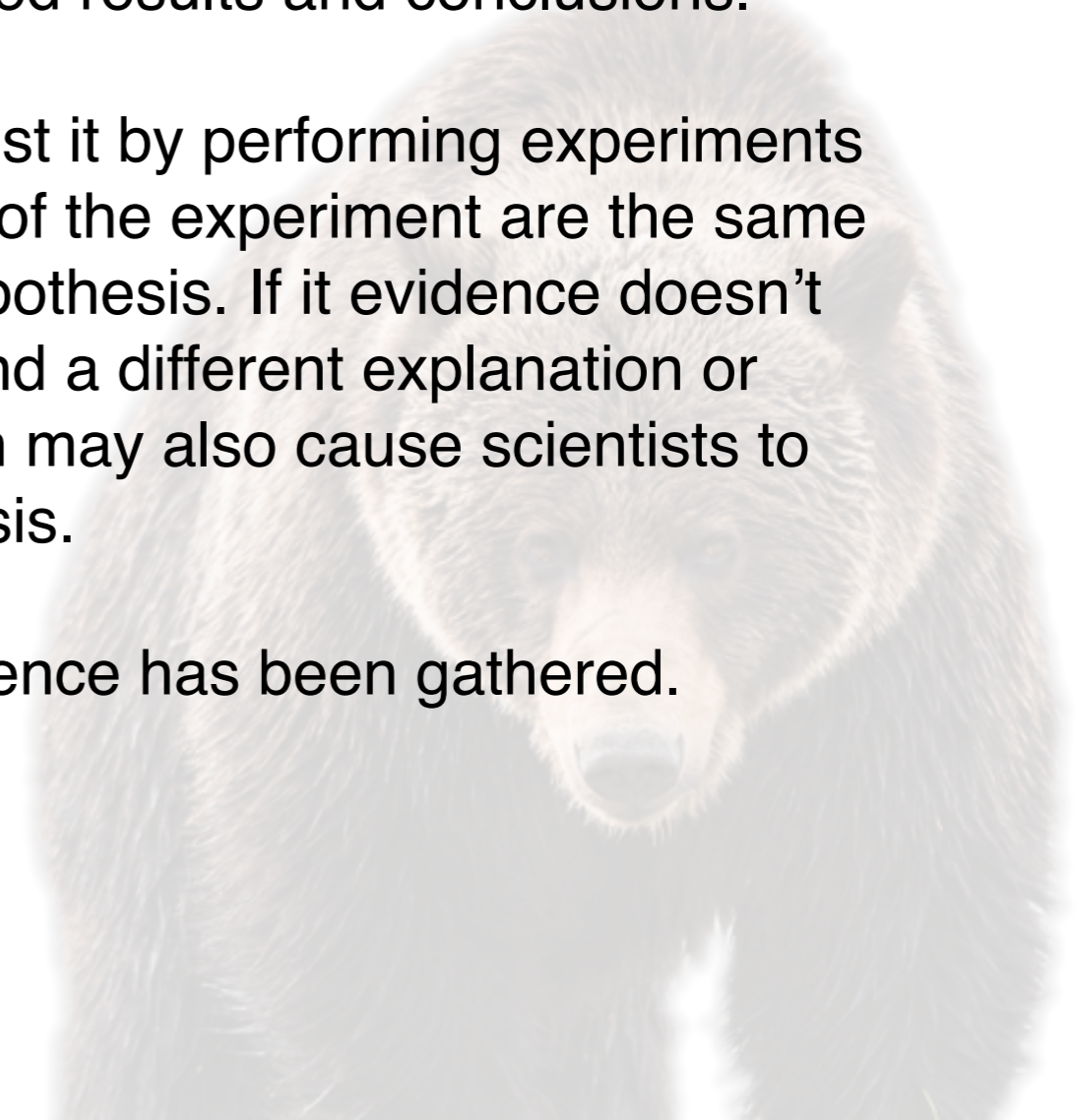
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The scientific method has been with us for centuries. It combines careful observation with a thoughtful, focused hypothesis, leading to extensive inquiry and rigorous testing, producing carefully analyzed results and conclusions.

To prove their hypothesis, scientists will often test it by performing experiments to see if their prediction is correct. If the results of the experiment are the same as the prediction, the evidence supports the hypothesis. If the evidence doesn't support the prediction, the scientist will either find a different explanation or perform a different experiment. New information may also cause scientists to repeat their experiments to retest their hypothesis.

A scientific theory is created when enough evidence has been gathered.



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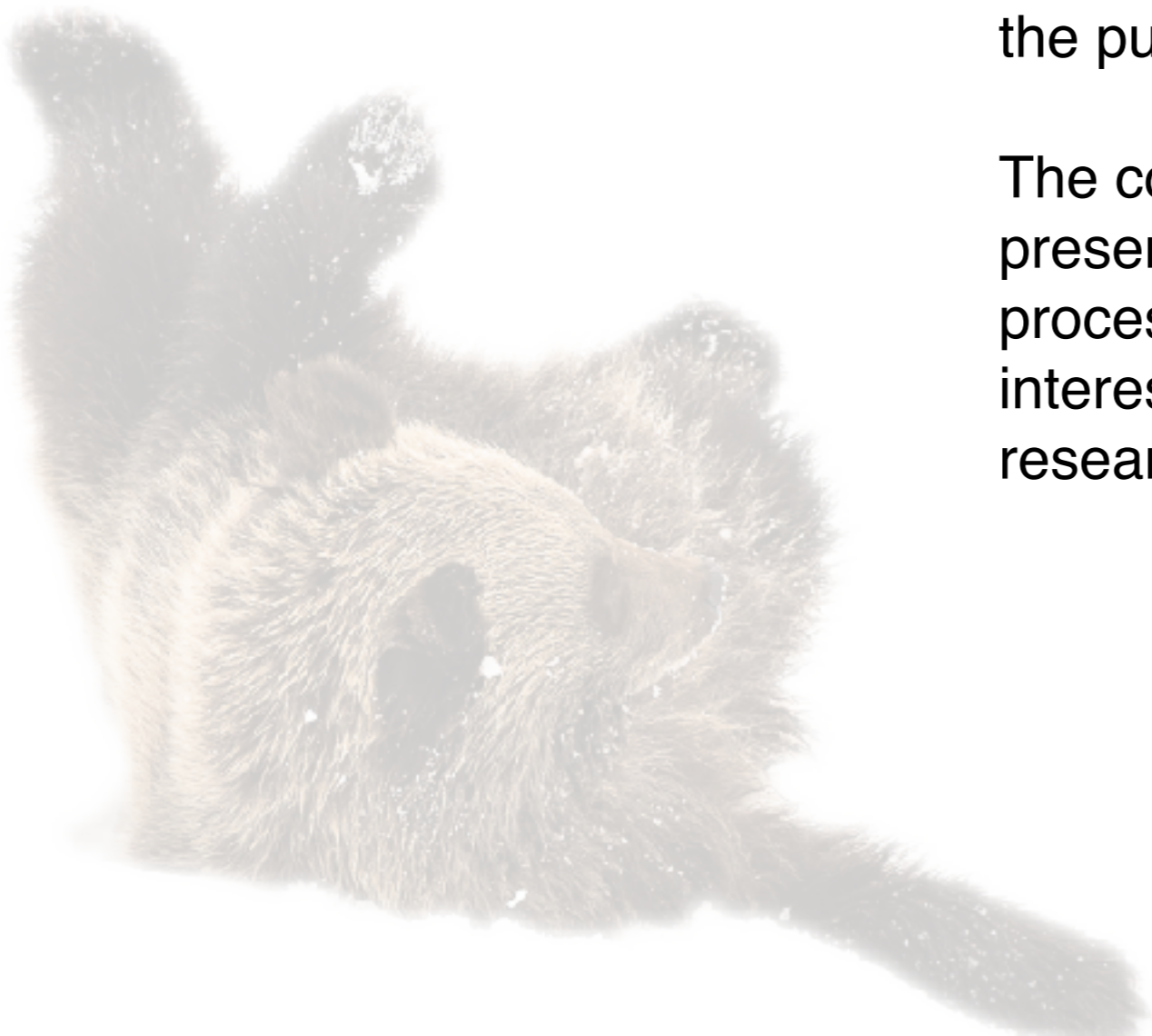
1. Make an observation.
2. Ask a question using the who/what/where/when/why/how model.
3. Do some research. (Has this been studied before? What should I test and how should I test it?)
4. Create a hypothesis. (If this happens, then this will be the result).
5. Test the hypothesis.
6. Analyze the results. If prediction is wrong, form a new hypothesis.
7. Draw a conclusion.
8. Share your results and have others analyze/test your findings.



# The Scientific Code of Ethics

The scientific code of ethics is a universal commitment by scientists to be fair and transparent in their actions in order to maintain the trust of policy-makers, employers, clients and the public.

The code demands that scientists accurately present their results, are transparent about their process of inquiry and identify any conflict of interest while conducting and presenting their research.



# Peer Review

In the scientific community, it's standard for a peer review process to validate a study's purpose, method and conclusion.

The peer review process begins when a study is sent to two or more experts in the same field who are qualified to evaluate the research. The reviewers judge the work based on several criteria, including the quality and rigour of the research methods, the validity of the results and the significance of the findings. The panel then provides feedback and suggestions to the scientist(s), with these recommendations informing revisions (if necessary) before the study is submitted for publication.

Peer review demands that scientists meet a high standard in order for their research to be validated and published. By subjecting studies to an evaluation by experts, it helps identify and correct errors, biases or other problems that could undermine the credibility of the research. In general, the process is rigorous and competitive, with some journals only publishing between 5-10% of all submissions.