

# HOW RESEARCH WORKS

## UNDERSTANDING THE PROCESS OF SCIENCE

Scientists ask questions about how the world works. Each research advance builds on past discoveries, often in unexpected ways. This process isn't always a straight path. But here's a general overview:

### DIFFERENT ANGLES DIFFERENT TECHNIQUES

Scientists with diverse skills and training can look at a question from different angles. They review past research and design new experiments to test their ideas.



### EVIDENCE ACCUMULATES

Scientists collect data from their experiments and evaluate what their findings might mean. That may lead to new ideas to test—or new ways to test older ideas.

### SHARING DATA

To tell other scientists what they've found, researchers give presentations at meetings and publish papers in scientific journals.



### THE BIG PICTURE

Each finding is often a small piece of a larger puzzle. It may take data from many different researchers to start piecing the full puzzle together. Science is constantly evolving, and our understanding changes.



Research results sometimes seem to contradict each other. This can happen when scientists use different methods or timeframes. Reality is often more complex than the findings of a single study. That's why it's important to consider how all research results fit together.

### FORMING CONCLUSIONS

Over time, enough evidence accumulates to point toward an explanation of all the different findings on a topic.



### MORE QUESTIONS

Some research might not answer the scientists' original questions. But the knowledge gained may help answer other questions. And new findings raise new questions.