

# 2 | WAYS OF KNOWING

How do we gain trustworthy knowledge in science and theology?

MEET

- Philosopher Jim Stump

GROW

- Faith

EXPERIENCE

- Scientific Knowledge

ENGAGE




- Different Kinds of Knowledge
- Theological Knowledge
- Parallels in Science and Theology
- Cognitive Bias
- Trust and Skepticism

INTEGRATE

- Two Perspectives

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# 2

## Ways of Knowing

How do we gain trustworthy knowledge in science and theology?

### Unit Overview

*Unit 2: Ways of Knowing* explores the differences between theological knowledge and scientific knowledge. Students are invited to consider how different ways of knowing can complement each other as we pursue holistic truth about the world. This unit features:

- A video introduction to philosopher Jim Stump.
- A devotional Bible study on the virtue of faith.
- An activity to explore different ways of knowing and describing the world.
- An activity that shows how Christian beliefs and practices change over time.
- Hands-on practice using the scientific method.
- A comparison of the parallel process in science and theology for acquiring knowledge and coming to consensus.
- A research activity to identify cognitive biases.
- A discussion of how to employ trust and skepticism in healthy ways.
- A Bible study exercise that demonstrates how science and theology ask and answer different kinds of questions.



TEACHING TIME

5:00–7:30  
HOURS

### QUICK LINKS

[User Introduction and Overview](#)

[Units List](#)

[Course Pairing](#)

[Next Gen Science Standards  
Alignment](#)

[Glossary](#)

## Learning Outcomes

What will students know or be able to do after this unit?

- Identify activities that strengthen faith.
- Distinguish between ways of knowing in science versus theology.
- Identify questions that science is not equipped to answer.
- Distinguish between Christian *doctrines*, beliefs, and practices.
- Explain how revised interpretations and new applications lead to changes in doctrines, beliefs, and practices.
- Practice observation and *inference* to create and refine a hypothesis and critically evaluate competing hypotheses.
- Compare and contrast how scientific and theological knowledge is acquired and evaluated.
- Describe several forms of *cognitive bias* and evaluate the extent to which they affect how we respond to new ideas in science and theology.
- Critically evaluate the trustworthiness of scientists and scientific claims.
- Critically evaluate a scientific claim for scientific merit and a theological claim for orthodoxy.

## How to Use This Unit

Please see the **User Introduction and Overview** ([biologos.link/user-intro](https://biologos.link/user-intro)) for important information and links, such as the difference between the five module types (Meet, Grow, Experience, Engage, and Integrate); our terms of use (how documents may be modified and distributed); and advice for communicating with parents or others in your community about potentially controversial topics.

This document contains lesson plans for the entire unit. Other files, such as student handouts, images for the Grow module, teacher instructions for specific activities, answer keys, and slide presentations, are accessible via links within this document.

Teacher's Notes and sample answers are formatted with italics.

## Scope and Sequence

This unit provides a comparison between theological and scientific knowledge and the methods scientists and theologians use to arrive at a consensus. After completing *Unit 2: Ways of Knowing*, you can continue with other units ([biologos.link/units-list](https://biologos.link/units-list)) that pair well with your science or Bible course ([biologos.link/course-pairing](https://biologos.link/course-pairing)). The modular design gives you flexibility to pick and choose the activities that best suit your goals, time constraints, and students' interests.

For an introduction to questions at the intersection of faith and science, see *Unit 1: Faith and Science Foundations*. If you would like to take an in-depth look at different approaches Christians use to interpret Scripture and harmonize theological knowledge with scientific knowledge, dig into *Unit 8: Bible Interpretation and Science*. An emphasis on seeing truth about God in the natural world is found in *Unit 12: Seeing God in Creation*. To explore how science can be a way to serve God, see *Unit 3: Science as a Christian Vocation*. Open questions and debated issues about how to best reconcile theological and scientific knowledge are explored in *Unit 4: Cells and Design*, *Unit 5: Genetic Diversity and Human Dignity*, *Unit 6: DNA Technologies and Ethics*, *Unit 7: Fearfully and Wonderfully Made*, *Unit 9: Evolution and God's Creation*, *Unit 10: The Fossil Record and Faith*, *Unit 11: Humans and the Rest of Creation*, *Unit 13: Caring for People and the Planet*, *Unit 14: Climate Change and Our Commission*, and *Unit 15: Biodiversity and Conservation*.

## Pedagogy of Hospitality

Integrate presumes acceptance of, or directly teaches, the scientific consensus on some matters of controversy within the Christian community: namely, modern cosmology, the age of the earth, evolution, and anthropogenic climate change. At the same time, we as authors recognize that in any community of Christians, there is likely a diversity of viewpoints. Our goal is education, not indoctrination. As such, we include opportunities to explore various Christian perspectives within the Integrate units. Reflection assignments and discussion questions are intentionally open-ended, without an expectation that students adopt any one “correct” perspective. We also believe practicing gracious dialogue is more important than winning an argument. For this reason the curriculum includes opportunities for respectful engagement with others who think differently. For tips on how to create a welcoming environment in your community, see biology professor Kerry Fulcher's article **A Pedagogy of Hospitality** ([biologos.link/hospitality](https://biologos.link/hospitality)).

## Corequisite Science

While Integrate is flexible and may be used as a standalone resource for enrichment, it is designed to supplement, not replace, science instruction. Students will be prepared to engage with the material in this unit assuming concurrent or previous study of the nature of science.

## NGSS Alignment

The **Next Generation Science Standards** (NGSS; [biologos.link/ngss](https://biologos.link/ngss)) are research-based, cutting-edge K-12 science standards. They set expectations for what students should know and be able to do. While not an NGSS curriculum, Integrate has many points of alignment with NGSS. If you refer to NGSS in your lesson planning, please see the **NGSS Alignment for Integrate** ([biologos.link/ngss-alignment](https://biologos.link/ngss-alignment)).

## Vocabulary

The following terms and concepts are used in this unit or in the additional resources. Definitions and explanations are found in the [Unit Glossary](#) at the end of the unit. Many additional terms are included in the main **Integrate Glossary** ([biologos.link/glossary](https://biologos.link/glossary)).

Christian apologetics

cognitive bias

doctrine

eisegesis

empirical evidence

epistemology

eugenics

exegesis

falsifiability

genetically modified organism (GMO)

geologic time scale

heliocentrism

historical science

inference

K-Pg boundary

“man’s word”

metaphysical naturalism

natural theology

operational science

orthodox

peer review

pseudoscience

scientific consensus

scientific method

scientific theory

scientism

two books metaphor

worldview

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Authors ([biologos.link/integrate-authors](https://biologos.link/integrate-authors)):

Kathryn Applegate  
April Maskiewicz Cordero  
Christy Hemphill  
Sarah Bodbyl Roels  
Diane Sweeney  
Kendra Terpstra

Design: Bracket Publishing

Cover and interior image: Vladimir Fedotov (Unsplash)

All icons from [the Noun Project](#):

“[Cross](#)” icon by Guilherme Furtado; “[Gears](#)” icon by David; “[Handshake](#)” icon by Takao Umehara; “[Head](#)” icon by Gilbert Bages; “[Microscope](#)” icon by Creative Stall; “[Paper](#)” icon by Icon Factory; “[Puzzle](#)” icon by Agarunov Oktay-Abraham; “[Video](#)” icon by i cons.

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