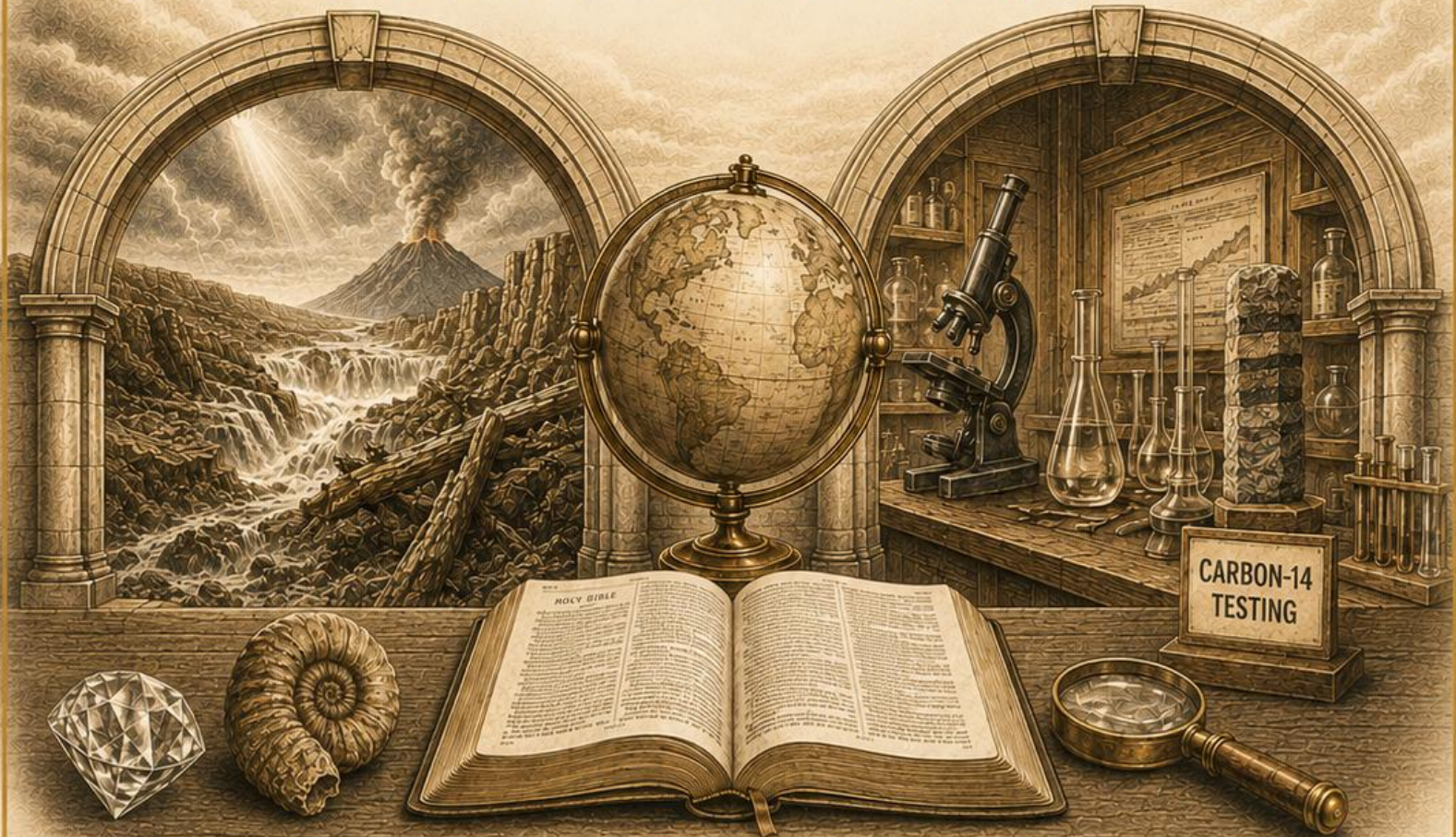


REASON TOGETHER CHURCH

REASON TOGETHER STUDIES

DOES SCIENCE AGREE WITH A YOUNG EARTH?

GENESIS 1:1; PROVERBS 18:13, 17 KJV



DR. THOMAS W. HAWKSLEY

www.ReasonTogether.Church

Bring your questions. Open your Bible. Let's Reason Together the Word of God.

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SERMON TRANSCRIPT

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Aloha,

Welcome to Reason Together Church.

I am grateful that you are here today.

If you are worshiping with us for the first time, you are not merely a visitor.

You are our honored guest.

We are glad that the Lord has brought you into this conversation.

At Reason Together Church, you are allowed to bring your questions.

You are allowed to admit that you do not understand something.

You are allowed to examine a claim before you accept it.

And you are allowed to discover that a question is more complicated than someone made it sound.

That is why our invitation is simple.

Bring your questions.

Open your Bible.

Let's Reason Together the Word of God.

Before we begin, let us pray.

Our Heavenly Father,

Thank You for giving us another day and another opportunity to gather around Your Word.

Thank You for every person in this room and every person who will receive this study somewhere else.

You created the heavens and the earth.

Nothing that is true can threaten You.

Nothing that is discovered can surprise You.

Give us wisdom today.

Protect us from pride, fear and careless conclusions.

Keep us from accepting an argument merely because it supports what we already believe.

Keep us from rejecting an argument merely because it challenges us.

Teach us to listen carefully, test honestly and speak graciously.

Above all, help us see Jesus clearly and honor Him in the way we search for truth.

In His precious name we pray.

Amen.

Our Scripture reading begins with the first verse of the Bible.

Genesis chapter 1 and verse 1 says:

"In the beginning God created the heaven and the earth."

Exodus chapter 20, beginning with verse 8, says:

“Remember the sabbath day, to keep it holy.

Six days shalt thou labour, and do all thy work:

But the seventh day is the sabbath of the LORD thy God: in it thou shalt not do any work.”

Then verse 11 says:

“For in six days the LORD made heaven and earth, the sea, and all that in them is, and rested the seventh day.”

Psalm 19 and verse 1 says:

“The heavens declare the glory of God; and the firmament sheweth his handywork.”

Proverbs 18 and verse 13 says:

“He that answereth a matter before he heareth it, it is folly and shame unto him.”

And verse 17 says:

“He that is first in his own cause seemeth just; but his neighbour cometh and searcheth him.”

May the Lord bless the reading of His Word.

Before we enter the study, let me briefly explain a few things about Reason Together Church.

We do not pass an offering plate.

There is a giving box available for members who are led to give, but our guests are never expected to contribute.

If you are a member of another church, we encourage you to support your home church.

Giving is an act of worship and the Bible teaches that it should never be done under compulsion.

If you would like us to stay in touch with you, our guest card asks only for your first name and email address.

We do not need your life history to welcome you into a conversation.

Our Keiki Kids Center is available for families who would like to use it.

After the study, please join us at the Reason Together Café.

COFFEE stands for Christ Offers Forgiveness For Everyone Everywhere.

The coffee is free and so are the refills on conversations.

Now let us turn to the question before us.

Does science agree with a young Earth?

This is Part One of a two-part Reason Together Study.

Today we will ask whether scientific evidence can agree with a young Earth.

In Part Two, we will ask the opposite question.

Does science agree with an old Earth?

We will not make one side answer difficult questions while allowing the other side to avoid them.

We will use the same standard for both.

Not long ago, I was doing nothing in particular.

I was minding my own business.

I was not bothering anyone.

No one was bothering me.

I was having a good day.

There was no stressful activity.

I was relaxing peacefully.

Well, at least that is how the day started.

Then, out of nowhere and for no good reason whatsoever, my wife called me into the bedroom.

My wife's name is Danielin.

Most people who know us call her Mama D.

Mama D was trying on dresses for an event we were attending that evening.

She came out wearing one of them.

She looked me directly in the eyes.

Then she asked:

"Does this dress make me look old?"

Gentlemen, there are questions that contain no safe answer.

This was one of them.

Mama D is a beautiful woman with an attractive figure.

At that moment, I think I would have preferred the other dangerous question:

"Does this dress make me look fat?"

At least I had spent years preparing for that one.

But she surprised me with:

"Does this dress make me look old?"

Naturally, I told her that she looked beautiful.

She did look beautiful.

I also knew that my answer was not going to prevent her from trying on another ten outfits.

As soon as it appeared safe, I quietly escaped from the room.

As I was leaving, a thought came into my mind.

I did not say this thought out loud.

I enjoy being married and wanted to remain that way.

What I thought, but wisely did not say, was this:

The dress might change how old she looked.

It might change how old she felt.

It might even change how old someone guessed she was.

But the dress could not change how old she actually was.

She would be precisely the same age in that dress as she was in every other dress hanging in the closet.

That thought unexpectedly led me somewhere much larger.

Does the Earth look old?

Does it look young?

Can something appear old without actually being old?

Can something form rapidly and still look as though it required an enormous amount of time?

Can something be newly formed from material that existed earlier?

How do we tell the difference between appearance, formation and elapsed time?

I believe the Biblical chronology places creation only thousands of years ago.

But I had to ask myself honestly:

Do I believe that only because it is what I have been taught?

Or can the scientific evidence agree with it?

Before we answer that question, we need to ask what we mean when we say, “science agrees.”

Science is not a person.

Science does not have a mind.

Science does not cast a vote.

Science does not hold a press conference and announce its opinion.

Science is a method of investigating the world.

Scientists observe.

They measure.

They experiment.

They propose explanations.

They test those explanations.

They criticize one another’s work.

Sometimes they confirm earlier conclusions.

Sometimes they revise them.

Sometimes they reject them entirely.

That means the sentence “science says” can hide a great deal of disagreement.

The prevailing scientific position today assigns an age of about 4.54 billion years to Earth.

We should state that honestly.

That number was not selected by taking a vote in a room.

It is supported by several lines of evidence and several dating methods.

But that does not mean every scientist agrees with every assumption, every method or every conclusion.

It also does not mean that a scientist who questions conventional dating is automatically a Christian scientist.

Some people use that label as though only a Christian could question an old Earth.

There are scientists from many religious backgrounds and scientists with no religious faith who question parts of conventional models.

There are also sincere Christians who accept an ancient Earth.

A scientist’s religious identity does not make a measurement correct or incorrect.

The evidence still has to be examined.

We also have to recognize that scientific work does not occur in a vacuum.

Research costs money.

Someone decides which questions receive funding.

Someone decides which projects are worth pursuing.

Editors decide which papers are published.

Institutions decide which models are treated as promising.

Researchers know which conclusions may advance a career and which conclusions may make that career more difficult.

Who pays for research can influence which questions are asked and which explanations receive attention.

But we must be fair here too.

Funding does not automatically make a result false.

A company can pay for an honest study.

A church organization can fund careful research.

A government institution can produce excellent measurements.

The name on the check is something we should know, but it is not a substitute for examining the work.

We should ask:

What was measured?

How was it measured?

Can someone else repeat it?

What assumptions were used?

Were competing explanations tested?

That is where Proverbs 18 becomes so important.

“He that answereth a matter before he heareth it, it is folly and shame unto him.”

If I say the Earth must be young before I hear the evidence, I am not reasoning.

I am announcing.

If someone says the Earth must be old before hearing another explanation, that person is doing the same thing.

Then verse 17 warns us:

“He that is first in his own cause seemeth just; but his neighbour cometh and searcheth him.”

The first explanation can sound completely convincing.

Then someone begins asking questions.

That is not an attack upon truth.

That is how claims are tested.

Now we come to one of the most important distinctions in this entire study.

Science can measure evidence that exists today.

It does not directly measure elapsed time in the past.

A scientist can measure radioactive isotopes.

A scientist can measure carbon-14.

A scientist can examine rock layers, fossils, erosion, magnetic fields and light.

Those are real observations.

Those are real measurements.

But an instrument does not ordinarily examine a rock and display the words:

“This rock is 2.6 billion years old.”

The instrument measures something presently in the sample.

Scientists then use a model to calculate how much time may have passed.

That does not make the age a wild guess.

It does mean that the measurement and the interpretation are not identical.

First, something is observed.

Second, a measurement is taken.

Third, assumptions are applied.

Fourth, a model performs a calculation.

Finally, an age is assigned.

The measurement may be extremely precise while the historical interpretation still requires examination.

We also need to separate four ideas that are often blended together.

The first is chronological age.

How much time has actually passed?

The second is formation time.

How long did the object take to form?

The third is material age.

How long have the ingredients of that object existed?

The fourth is apparent maturity.

How old or developed does the object look?

Mama D's dress might have affected appearance.

It could not affect chronological age.

In the same way, the appearance of a rock does not by itself tell us how long ago it formed.

The Bible also introduces the idea of created maturity.

Adam was not created as a newborn baby.

He was chronologically new but physically mature.

The trees in the garden were able to bear fruit.

Animals were capable of functioning in the world God made.

God did not have to create an acorn and wait decades before there was an oak tree.

That does not mean God deceived anyone.

It means maturity is not the same thing as elapsed time.

But we should not use created maturity as an easy answer for every difficult observation.

There is a difference between creating a mature tree and creating detailed records of events that never occurred.

We will return to that issue when we discuss distant starlight.

For now, let us begin with something simple.

Can rocks form quickly?

Yes.

Lava can cool into rock.

Sediments can become cemented.

Minerals can precipitate from water.

Crystals can grow when the right chemical conditions exist.

Heat and pressure can transform material.

Some of these processes can occur far more rapidly than people commonly imagine.

The fact that something is stone does not tell us how long it took to become stone.

The same is true of diamonds.

We can produce diamonds relatively rapidly when sufficient heat and pressure are applied.

That does not prove that every natural diamond formed recently.

It proves a more limited point.

A diamond does not require millions of years merely because it is a diamond.

Someone may respond that the carbon used to make the diamond is older than the diamond itself.

That may be true.

And that response helps us see the distinction.

The time required to form an object is not necessarily the same as the age assigned to the material within it.

A new volcanic rock may contain material that existed before the eruption.

A newly made diamond may be produced from older carbon.

Rapid formation does not automatically prove a young Earth.

But complexity, hardness and appearance do not automatically prove an old Earth either.

The correct question is not merely:

How long would this take under the calm conditions we observe today?

The correct question is:

What conditions existed when it formed?

That leads us to catastrophe.

If we observe a river slowly eroding its bank today, we might calculate how long a canyon would take to form at that rate.

But what if the water was once deeper?

What if it moved much faster?

What if a natural dam failed?

What if an earthquake, eruption or enormous flood changed the conditions?

The present rate might tell us very little about the rate during a catastrophe.

Modern geology recognizes catastrophes.

We should not pretend that every old-earth geologist believes everything always happened slowly. That would be an outdated caricature.

The real disagreement concerns how much of Earth's history resulted from ordinary processes, how much resulted from repeated catastrophes and whether one worldwide Flood should be part of the model.

We know that sedimentary layers can form quickly.

Volcanic eruptions can deposit layers.

Underwater landslides can move enormous amounts of sediment.

Floodwater can sort, transport and bury material.

Multiple visible layers do not always require enormous intervals between them.

Fossils themselves often point to rapid burial.

When an animal dies on the surface, it normally decomposes.

It may be eaten.

Its bones may be scattered.

Weather and water may destroy what remains.

Preservation commonly requires unusual conditions and rapid burial.

That means a fossil may be a record of sudden destruction rather than slow, peaceful accumulation.

Some fossilized trees pass through several sedimentary layers.

They are called polystrate fossils.

The tree could not stand exposed for millions of years while one thin layer after another slowly accumulated around it.

At least those surrounding layers had to be deposited before the tree decayed.

That does not prove the entire geological column formed at the same time.

It does demonstrate that several layers can form rapidly.

Mount St. Helens gave scientists an opportunity to observe geological change following the 1980 eruption.

Layers formed rapidly.

Erosion cut channels.

Logs were transported and deposited.

The landscape changed within a period that human beings observed.

Mount St. Helens did not create another Grand Canyon.

We should not exaggerate what it demonstrated.

It demonstrated that some geological features can form much more rapidly than their appearance might suggest.

This matters when we consider Noah's Flood.

If the Flood described in Genesis was worldwide, it would not have been a small interruption in an otherwise calm history.

It could have affected sedimentation, erosion, fossil burial, climate, ocean circulation, volcanism, tectonic activity and the distribution of plants and animals.

Evidence of catastrophe does not automatically identify Noah's Flood.

But if a model excludes the possibility of a worldwide Flood before it examines the evidence, it will naturally find another explanation for everything it sees.

The young-earth position is strongest when it reminds us that extraordinary conditions can compress enormous change into very little time.

But showing that something can happen quickly is not the same as demonstrating that it did happen quickly.

We still need evidence connecting the process to the formation we are examining.

Now we come to radiometric dating.

This is one place where Christians sometimes repeat an oversimplified argument.

They may say scientists do nothing more than assume the rocks are old and then announce an old date.

That is not a fair description of modern radiometric dating.

The basic idea is not difficult.

A radioactive parent isotope decays into a daughter product.

Each isotope has a measured rate of decay called a half-life.

Scientists measure the relationship between parent and daughter materials.

They use that relationship to calculate elapsed time.

The method raises important questions.

How much parent material was present at the beginning?

Was daughter material already present?

Has either material entered or escaped?

Did water, heat or pressure alter the sample?

Did the dated mineral form at the same time as the surrounding rock?

Have decay rates remained constant?

Those are assumptions, but the word assumption does not automatically mean guess.

Scientists use isochron methods and other techniques intended to identify original daughter material, contamination and disturbed samples.

Different isotopic systems can be compared.

Minerals with different properties can be tested.

When independent methods agree, the old-earth case becomes stronger.

An honest young-earth study must address the strongest dating methods, not merely a simplified classroom diagram.

At the same time, radiometric results do not always agree.

A sample may produce more than one age.

A date may be rejected because the sample was contaminated, altered or inherited material from an earlier source.

Some of those rejections are scientifically justified.

But we should still ask:

Was the rejected date shown to be unreliable?

Or was it rejected principally because it did not match the age already expected?

Were unexpected results published?

Did the researcher know the expected geological age before interpreting the measurement?

Those are legitimate questions.

One incorrect date does not disprove all radiometric dating.

One agreement does not prove that every necessary assumption was correct.

Young-earth researchers involved in a project known as RATE argued that there is evidence of large amounts of radioactive decay, but they proposed that decay occurred much more rapidly during creation or the Flood.

That proposal creates another serious problem.

Accelerated nuclear decay would generate enormous heat and radiation.

Where did that heat go?

How could life survive?

What physical mechanism caused the acceleration?

Young-earth researchers themselves have acknowledged that the heat problem is serious.

That honesty is important.

We should never hide a problem merely because it belongs to the position we prefer.

Now let us turn to carbon-14.

Carbon-14 is not ordinarily used to date most rocks.

It is primarily used to date material that was once living or otherwise contains carbon connected to the atmosphere or environment.

While an organism lives, it exchanges carbon with its surroundings.

After it dies, carbon-14 continues to decay and is no longer replenished in the same way.

Scientists measure how much remains and use that amount to estimate elapsed time.

Carbon-14 dating also requires careful calibration.

Atmospheric carbon-14 has not remained perfectly identical through all recorded periods.

Earth's magnetic field, cosmic radiation, ocean effects and environmental conditions can influence the starting concentration.

Contamination can introduce newer carbon.

Laboratories also have a background level below which a measurement becomes difficult to distinguish from noise or contamination.

This is why carbon-14 is normally limited to comparatively recent material, generally tens of thousands of years rather than millions.

After enough half-lives, too little original carbon-14 should remain to measure reliably.

Young-earth researchers point to reports of carbon-14 in coal, petroleum, fossils, graphite and diamonds that have been assigned ages of millions or billions of years.

That is worth investigating.

If the carbon-14 is original to the sample, the material cannot be as old as conventional dating says.

But the phrase "if it is original" is important.

Conventional explanations include modern contamination, laboratory background, instrument limitations and carbon-14 produced within the sample by underground nuclear reactions.

We have to ask:

Was the measured amount above background?

Were proper controls used?

Was contamination demonstrated or only suggested?

Was the result reproduced by another laboratory?

Was the carbon actually locked within the original material?

Diamonds are particularly interesting because their tight crystal structure may resist some ordinary forms of contamination.

But even there, a measurement near the detection limit requires great care.

Unexpected carbon-14 is not an automatic proof of a young Earth.

It is also not something we should dismiss simply because the accepted age says it should not be there.

The observation deserves an explanation.

Another surprising area involves dinosaur fossils.

Researchers have reported flexible tissue-like structures, vessel-like structures, cellular-looking structures and remnants associated with proteins such as collagen.

Those discoveries were significant because many people did not expect such material to persist in fossils assigned ages of tens of millions of years.

What was observed is real.

What it means remains debated.

Young-earth researchers argue that biological material cannot survive for the required period.

Old-earth researchers have proposed preservation involving iron, minerals, chemical cross-linking and other processes.

Those mechanisms may help explain preservation.

But we should still ask whether they have been demonstrated to preserve the relevant material for tens of millions of years or whether they are being extended backward because the fossil has already been assigned that age.

Again, the observation and the interpretation are not identical.

Dinosaur soft tissue does not independently prove that dinosaurs lived only thousands of years ago.

But it has forced scientists to reconsider earlier assumptions about how long biological remnants can persist.

That makes it legitimate evidence in this conversation.

Other arguments offered for a young Earth include helium retained in zircon crystals, decay of Earth's magnetic field, rates of continental erosion, salt accumulating in the oceans and short-lived comets.

Each may raise useful questions.

Each must be tested separately.

For example, an accumulation argument must account for what enters a system and what leaves it.

A magnetic-field argument must account for reversals and fluctuations rather than projecting one simple decline backward forever.

An erosion calculation must consider uplift and the creation of new land.

A comet argument must distinguish what is directly observed from what is inferred about possible sources of replacement comets.

We should not place the entire case upon one fragile argument.

The stronger young-earth case is cumulative.

It asks whether rapid sedimentation, catastrophic erosion, sudden fossil burial, unexpected carbon-14, surprising biological preservation and disputed dating assumptions form a coherent pattern.

But now Proverbs 18:17 requires us to let the neighbour search that case.

What are the hardest scientific questions a young-earth model must answer?

The first is agreement among multiple radiometric systems.

If different methods, using different isotopes and minerals, produce broadly similar ancient ages, why do they agree?

It is not sufficient to answer that every sample was contaminated in precisely the right way.

A young-earth model must explain the pattern.

The second question involves ice cores and lake layers.

Researchers identify large numbers of layers that are interpreted as annual deposits.

Young-earth researchers answer that unusual post-Flood conditions could sometimes produce several layers during one year.

That is possible in some settings.

But can it account for the complete sequence, including chemical and seasonal patterns within the layers?

The third question involves tree rings.

Researchers overlap patterns from living trees, dead trees and preserved wood to construct chronologies extending beyond traditional dates assigned to the Flood.

Young-earth explanations may question whether every ring is annual or whether overlapping sequences have been matched correctly.

Those answers must be tested against the complete record.

The fourth question is fossil succession.

Fossils are not found in one completely random mixture.

They generally appear in recognizable sequences.

Young-earth researchers propose ecological zones, burial location, animal mobility, hydrodynamic sorting and successive stages of the Flood.

Those explanations may account for part of the order.

The question is whether they account for the whole pattern.

The fifth problem is heat.

If continents moved rapidly during the Flood, enormous heat could be produced.

If radioactive decay accelerated dramatically, enormous heat and radiation would result.

Where did that energy go?

It is not enough to say God could miraculously remove it.

God certainly could.

But once the explanation depends upon an unobserved miracle designed only to solve the physical problem, we should acknowledge that we have moved beyond a complete scientific mechanism.

The sixth question is distant starlight.

Light travels at a measurable speed.

We observe objects calculated to be millions or billions of light-years away.

How did that light reach Earth within a young chronology?

One proposed answer is that God created the light already on its way to Earth.

But that light contains information.

We appear to observe stars exploding, galaxies colliding and other actual events.

If the events never occurred and only the light-record was created, that creates a theological problem as well as a scientific one.

Other young-earth models propose changes involving gravity, the expansion of space, relativity or the passage of time in different regions.

Those proposals deserve examination, but no one should pretend the distant-light problem has one simple answer accepted by all young-earth researchers.

These hard questions do not prove that a young Earth is impossible.

They show what a complete young-earth model must explain.

Finding one rapidly formed canyon is not enough.

Finding one questionable radiometric date is not enough.

Finding one surprising fossil is not enough.

The model must explain the interconnected body of evidence.

We should require the same thing from the old-earth position.

That is why this is a two-part study.

Next time, we will not simply repeat that most scientists believe the Earth is old.

We will examine the strongest case for an old Earth.

We will ask what radiometric agreement really establishes.

We will look at geological sequences, ice cores, tree rings, astronomy and other evidence.

Then we will ask what assumptions the old-earth interpretation requires and what evidence it struggles to explain.

So where does Part One leave us?

Does science agree with a young Earth?

The answer depends partly upon what we mean by agree.

If we mean, “Do most scientists presently accept a young Earth?” the answer is no.

The prevailing scientific interpretation is an old Earth.

If we mean, “Are there scientific observations consistent with rapid formation, catastrophic change and a much younger history?” the answer is yes.

Rocks can form rapidly.

Diamonds can form rapidly under the proper conditions.

Sedimentary layers can be deposited rapidly.

Canyons can sometimes be cut rapidly.

Fossils commonly require sudden burial.

Unexpected carbon-14 deserves an explanation.

Biological remnants in dinosaur fossils deserve an explanation.

Radiometric ages depend upon models and assumptions, although those assumptions are often tested rather than merely invented.

Science does not unanimously disprove every possible young-earth history.

But we also cannot say that every scientific observation has already been completely explained by a young-earth model.

Radiometric agreement, distant starlight, annual-layer records, fossil order and excess heat remain serious questions.

The honest conclusion is not that science has proved a young Earth.

The honest conclusion is that important scientific observations can agree with a young-earth interpretation, and the conventional interpretation should not be protected from examination as though its assumptions were revelation.

At the same time, young-earth advocates must do more than identify isolated anomalies.

They must continue building a coherent model that accounts for the whole record.

Let us return to the question that started this conversation.

A dress can influence how old someone appears without changing how old that person actually is.

Something can look old because it is old.

Something can look old because it formed rapidly under extraordinary conditions.

Something can be newly formed from older materials.

Something can also be created mature.

Appearance begins the question.

It does not settle the answer.

The deeper question is not:

How old does Earth look to me?

The deeper question is:

What does the evidence actually require me to believe?

Psalm 19 says:

“The heavens declare the glory of God; and the firmament sheweth his handywork.”

God’s creation is not our enemy.

Truth is not our enemy.

An honest measurement is not our enemy.

If God is the Author of Scripture and the Creator of nature, the two will not ultimately contradict one another.

The error will be in our interpretation of Scripture, our interpretation of nature or both.

Christians should not be afraid to examine difficult evidence.

We also should not repeat a weak argument simply because it supports the conclusion we prefer.

Truth does not need false witnesses.

The age of Earth is an important question.

It affects the way we understand creation, the Flood and the history recorded in Genesis.

But correctly calculating the age of Earth cannot save anyone.

You can believe the Earth is 6,000 years old and still be lost.

You can believe the Earth is 4.54 billion years old and still be lost.

Salvation does not come through choosing the correct geological model.

Salvation comes through Jesus Christ.

The first verse of the Bible says:

“In the beginning God created the heaven and the earth.”

That same God created you.

He gave you life.

He gave you purpose.

But all of us have sinned against Him.

Romans 3:23 says:

“For all have sinned, and come short of the glory of God.”

Our greatest problem is not that we may have calculated the age of a rock incorrectly.

Our greatest problem is that sin has separated us from the God who made us.

Romans 6:23 says:

“For the wages of sin is death; but the gift of God is eternal life through Jesus Christ our Lord.”

Jesus Christ, the Son of God, came into the world.

He lived without sin.

He died upon the cross and bore the judgment our sins deserved.

He was buried.

On the third day, He rose again.

He offers forgiveness and eternal life to everyone who will repent and trust Him.

The Bible says in Romans 10:9:

“That if thou shalt confess with thy mouth the Lord Jesus, and shalt believe in thine heart that God hath raised him from the dead, thou shalt be saved.”

If you have never trusted Jesus Christ, you can come to Him today.

You do not need to solve every scientific question first.

You need to recognize your sin, turn to Christ and place your faith in what He has done for you.

Prayer does not save you because you repeat perfect words.

Jesus saves you when you genuinely place your faith in Him.

If you are ready to trust Him, you may speak to Him from your heart in words such as these:

Lord Jesus,

I know that I am a sinner.

I believe that You died upon the cross for my sins.

I believe that You were buried and rose again.

I turn from trusting myself and place my faith in You.

Please forgive me, save me and make me the person You created me to be.

Thank You for the gift of eternal life.

Amen.

If you prayed that prayer sincerely and trusted Christ today, please speak with me after the service.

We would like to rejoice with you, answer your questions and help you begin growing in your faith.

For everyone else, carry this conversation into the coming week.

Do not use this study as ammunition for an argument.

Use it as an invitation to investigate.

Ask someone what evidence most strongly influences his or her view of Earth's age.

Listen before you answer.

Separate the measurement from the interpretation.

Ask which assumptions connect them.

Then apply the same standard to the position you prefer.

Do not mock someone who accepts an old Earth.

Do not dismiss someone who accepts a young Earth.

Open the Bible together.

Look at the evidence together.

Reason together.

Next time, we will complete the pair by asking:

Does science agree with an old Earth?

We will give that case the same fair hearing we gave this one.

If questions, problems or concerns arise during the week, I am available.

You do not have to wait until the next service or discuss a sensitive question in front of everyone.

We can sit down privately.

We can open the Bible.

We can pray.

And we can reason through it together.

Please join us at the Reason Together Café after the service.

The coffee is free.

The conversations are welcome.

The refills on conversations are always free too.

Let us pray.

Our Heavenly Father,

Thank You for creating the heaven and the earth.

Thank You that Your works are worthy of careful examination.

Forgive us for the times we have answered a matter before hearing it.

Forgive us for confusing confidence with knowledge.

Forgive us for repeating claims we never tested merely because they supported our side.

Give wisdom to scientists who study the world You made.

Protect them from pride, dishonesty, institutional pressure and financial influence.

Give courage to those who discover evidence that challenges a prevailing model.

Give humility to those who challenge it.

Help every researcher report measurements honestly and distinguish observation from interpretation.

Give Your Church the courage to ask difficult questions without fear.

Help us defend truth without bearing false witness.

Help us disagree without becoming disagreeable.

Thank You most of all for Jesus Christ.

Thank You that our salvation rests upon His finished work and not upon our ability to answer every question.

For those who trusted Him today, give assurance and help them grow.

For those still considering His invitation, continue drawing them toward the truth.

Use this study to create honest conversations in homes, churches and communities.

In Jesus' name we pray.

Amen.

Take what we have discussed today into the coming week.

Do not let this remain a conversation that ended when the sermon ended.

Reason together with someone else.

Open the Bible together.

Listen carefully.

Speak graciously.

Join us for Part Two as we ask whether science agrees with an old Earth.

And remember that I am available throughout the week if questions, problems or concerns arise.

Bring your questions.

Open your Bible.

Let's Reason Together the Word of God.

Aloha Nui Loa.

REASON TOGETHER CHURCH
REASON TOGETHER STUDIES

COMMENTARY

**DOES SCIENCE AGREE
WITH A YOUNG EARTH?**

A Biblical, Scientific and Pastoral Commentary

Genesis 1:1; Psalm 19:1; Proverbs 18:13, 17 (KJV)

Dr. Thomas W. Hawksley

**Bring your questions. Open your Bible.
Let's Reason Together the Word of God.**

Commentary Introduction

This study asks whether science can agree with a young Earth. It does not ask whether every scientist agrees, because scientists do not speak with one voice. It does not ask whether one observation can settle the entire chronology, because Earth history is reconstructed from many kinds of evidence. It asks whether a young-earth interpretation can account for what scientists measure without misrepresenting the methods or hiding the model's hardest problems.

The study is Part One of a two-part investigation. This commentary gives the young-earth case a fair hearing. The companion study will give the old-earth case the same hearing. Fairness does not require pretending that both positions presently have equal support within scientific institutions. It requires applying the same questions to both: What was observed? What was assumed? What model connected the evidence to the conclusion? What alternative explanations were tested? What remains unresolved?

CONTROLLING PRINCIPLE

Appearance begins the question. Evidence, assumptions and tested interpretation must carry it toward an answer.

The opening story about Mama D, whose given name is Danielin and who is Dr. Hawksley's wife, makes this distinction memorable. A dress may influence how old someone appears or feels. It cannot change how old that person actually is. Earth may contain features that appear old because they are old. Some may appear old because they formed rapidly. Some may be newly formed from older material. Others may reflect created maturity. The commentary must keep those possibilities distinct.

Genesis 1:1: The First Scientific Boundary

Genesis 1:1

In the beginning God created the heaven and the earth.

Genesis begins with God, not matter. The heaven and the earth are not self-existent. They are the result of divine action. The verse establishes agency, ownership and purpose before it supplies details about sequence. Whatever physical mechanisms operated afterward, creation is not independent of the Creator.

The verse also joins the heaven and the earth within one opening declaration. Geological and astronomical evidence may be studied separately because the instruments and processes differ. Theologically, however, the questions are connected. A recent creation chronology must address Earth's rocks and the light of distant heavens. An ancient chronology must address the Biblical presentation of creation as well as physical evidence.

Genesis 1:1 does not provide an isotope calculation. Science cannot determine from the verse alone how a mineral system behaved. In the same way, an isotope ratio cannot determine whether God exists or whether creation has purpose. Scripture and scientific investigation ask overlapping but not identical questions.

BIBLICAL FOUNDATION

The world is created, ordered and intelligible because it comes from God. Studying creation is therefore not an act of unbelief.

Exodus 20:11: Creation and Ordinary Time

Exodus 20:11

For in six days the LORD made heaven and earth, the sea, and all that in them is, and rested the seventh day...

The completed six-day study addressed the meaning of the creation days. This commentary does not repeat that work. It recognizes why the young-earth interpretation begins with a short chronology. The human workweek is patterned after God's creation week, and the language naturally presents a sequence of divine work followed by rest.

That Biblical conclusion does not remove the need to examine physical evidence. It gives the investigator a proposed history. The scientific task is then to ask what traces such a history should leave and whether the world displays them. A model becomes stronger when it explains observations that were not invented merely to protect it.

Psalms 19: Creation Truly Testifies

Psalms 19:1

The heavens declare the glory of God; and the firmament sheweth his handywork.

Creation's testimony is real. Psalm 19 does not say the heavens mumble or deceive. They declare God's glory. Romans 1 likewise says God's eternal power and Godhead are understood through the things that are made. Christians should therefore resist two opposite errors.

The first error treats nature as an authority above Scripture.

The second error treats careful observation of nature as a threat to Scripture.

God's Word is true and God's world is real. Contradiction arises when interpreters misunderstand the text, misunderstand the evidence or confuse a model with the evidence itself. This is not a reason for endless uncertainty. It is a reason for humility joined to serious work.

Proverbs 18:13, 17: The Reason Together Method

Proverbs 18:13

He that answereth a matter before he heareth it, it is folly and shame unto him.

The verse condemns premature certainty. A believer can answer too quickly because a claim sounds hostile to faith. A scientist can answer too quickly because an alternative falls outside the prevailing model. A ministry can answer too quickly because donors expect a particular conclusion. The warning applies before anyone chooses a side.

Proverbs 18:17

He that is first in his own cause seemeth just; but his neighbour cometh and searcheth him.

The first case often sounds complete because no one has tested its weak points. Cross-examination is not hostility to truth. It is one means by which weak reasoning is exposed and strong reasoning is refined. The young-earth case should be searched by its strongest critics. The old-earth case should be searched by its strongest critics. Both should answer without ridicule.

COMMENTARY METHOD

Hear the claim. Identify the observation. Locate the assumptions. Search the model. Test the answer. Apply the same standard to the view you prefer.

Science Is a Method, Not a Person

The phrase ‘science says’ can be useful shorthand, but it can also hide disagreement. Science does not hold a personal opinion. Scientists observe, measure, experiment, model, publish, criticize and revise. Their conclusions vary in strength. Some findings are repeated across laboratories. Some remain disputed. Some are later corrected.

The prevailing scientific judgment assigns Earth an age of about 4.54 billion years. That judgment is supported by several dating systems and by related geological and astronomical evidence. A fair commentary must say so. It must also say that not every scientist agrees with every assumption, method or reconstruction.

A scientist who favors a young Earth is not automatically a Christian. The person may be Christian, Jewish, Muslim, secular or attached to another worldview. Accepting a recent chronology does not assign religious identity. Likewise, a Christian may accept an old Earth without accepting atheism or every form of evolutionary theory. Evidence should be evaluated without turning scientific positions into careless labels.

Funding, Institutions and Human Influence

Research costs money. Governments, universities, corporations, foundations, ministries and private donors decide what to support. Funding can influence which questions are asked, which projects receive equipment and which results attract attention. Publication systems and career incentives can reinforce prevailing assumptions. These influences deserve disclosure and examination.

The concern must be applied symmetrically. A corporation may favor a profitable conclusion. A government agency may protect an established program. A creation ministry may fund work intended to support a young-earth model. None of those facts automatically invalidates the result. Funding reveals possible incentives. It does not replace analysis of the sample, instrument, controls and reasoning.

Proper question	Improper shortcut
Who funded the work and what interests were disclosed?	The funding source proves the result is false.

Proper question	Improper shortcut
Were methods and data available for review?	An institution's reputation makes review unnecessary.
Can another laboratory reproduce the result?	A minority result is true because it is unpopular.
Were competing explanations tested?	Consensus proves truth or consensus proves conspiracy.

PASTORAL SENTENCE

Follow the money to identify incentives. Follow the evidence to evaluate the claim.

Observation, Measurement, Model and Conclusion

An instrument may measure an isotope ratio with extraordinary precision. It does not normally display the sentence, 'This rock is 2.6 billion years old.' The age is calculated by placing the measurement within a model of decay, starting conditions, mineral formation and later disturbance.

Stage	Question
Observation	What physical feature or sample is present?
Measurement	What quantity did the instrument record?
Assumptions	What starting state, boundary conditions and rates are being used?
Model	What history would produce the measured condition?
Conclusion	What age or event is assigned and with what uncertainty?

Calling an age an interpretation does not make it arbitrary. Good models are constrained by experiments, field relationships and independent methods. Calling a premise an assumption does not make it a guess. Some assumptions are weak. Others have been tested repeatedly. The commentary should ask how each assumption is supported rather than using the word as an accusation.

Chronological Age, Formation Time and Apparent Maturity

Category	Meaning	Example
Chronological age	Elapsed time since the event being discussed.	Time since a crystal formed or an organism died.
Formation time	Duration required to produce the visible object or structure.	Time required for lava to solidify or a diamond to grow.
Material age	History of ingredients or inherited components.	Older carbon used to make a newer diamond.

Category	Meaning	Example
Apparent maturity	The developed state displayed when first observed.	Adam created as a functioning adult rather than an infant.

Created maturity is Biblically reasonable. Adam was chronologically new and physically mature. Fruit-bearing trees did not need decades of observed growth before serving their created purpose. This does not authorize the believer to call every record of prior events an appearance of age. A mature tree and light that depicts an explosion that never happened raise different theological questions.

Rapid Formation and Catastrophe

Rocks can form quickly. Lava can cool, minerals can precipitate and sediment can become cemented under suitable conditions. Diamonds can be manufactured on human timescales through high pressure, high temperature or chemical-vapor processes. These facts establish possibility. They show that hardness, complexity and maturity do not function as automatic clocks.

They do not establish that every natural rock or diamond is recent. A new structure may contain older source material. Inclusions may record earlier events. Surrounding geology may constrain formation. The correct conclusion is limited but important: the form of the object does not reveal its age by itself.

KEY DISTINCTION

Showing that a feature can form quickly defeats an assumption of necessary slowness. It does not prove that the feature under study formed quickly.

Catastrophes likewise compress geological work. Eruptions, floods, debris flows and underwater sediment currents can deposit layers, transport large material and cut channels rapidly. Modern geology recognizes catastrophes. The dispute concerns how much of the record resulted from ordinary processes, how much resulted from repeated catastrophes and whether Noah's worldwide Flood belongs in the model.

Fossils, Layers and Mount St. Helens

Fossils often require rapid burial. Surface remains are exposed to scavengers, weather, oxygen and decay. Sudden burial can protect structures long enough for preservation. This supports catastrophe without identifying every catastrophe as the Flood.

Polystrate fossils extend through several visible layers. They demonstrate that the crossed layers accumulated before the organism decayed. They are strong evidence for rapid local deposition. They do not prove that every layer in the geological column formed within the same event.

Mount St. Helens demonstrated rapid deposition and rapid erosion after the 1980 eruption. It remains an excellent illustration because the event was observed. It should not be described as a miniature production of every feature found in the Grand Canyon. Similar appearance does not guarantee identical material, scale, mechanism or history.

Radiometric Dating: A Fair Commentary

Radiometric systems measure parent and daughter isotopes. A half-life describes the rate at which a radioactive parent changes. A calculated age depends upon identifying the event being dated and reconstructing the mineral's history.

Question	Why it matters	Scientific safeguard
What was present initially?	An unknown starting daughter amount may distort a simple calculation.	Isochron methods, mineral chemistry and multiple samples can estimate or constrain initial composition.
Was the system closed?	Gain or loss changes parent–daughter ratios.	Alteration studies, mineral comparison and concordia patterns can reveal disturbance.
Was the decay rate stable?	Elapsed time depends upon rate.	Rates are measured experimentally and different decay systems can be compared.
What event is dated?	A grain may be older than the rock containing it.	Petrography, field relations and mineral selection identify inherited components.

Young-earth teachers should not say that all dating assumes no daughter product at the beginning. Modern methods were developed partly to address that problem. Conventional scientists should not imply that every sample produces one unquestionable date. Discordance, inherited material, excess daughter products and later alteration are real.

Agreement among different systems strengthens an ancient interpretation because the methods do not all fail in the same way. A young-earth model must explain that agreement rather than pointing only to rejected dates. At the same time, researchers should explain why a date was rejected and whether the reason was independent of the desired age.

Carbon-14 and the Assumptions Behind an Age

Carbon-14 has a half-life of about 5,730 years. It is primarily used for once-living carbon-bearing material rather than for most rocks. After many half-lives, the remaining amount approaches laboratory background and contamination becomes increasingly important. Practical dating limits are usually expressed in tens of thousands of years, not millions.

The method requires calibration because atmospheric carbon-14 has varied. Reservoir effects can make organisms appear older when they absorb carbon isolated from the atmosphere. Modern contamination can make old material appear younger. Sample collection, chemical preparation, instrument background and statistical limits all matter.

Young-earth researchers, including the RATE project, reported carbon-14 in coal and diamonds assigned conventional ages far beyond carbon-14's ordinary range. The observation deserves investigation. If the signal is intrinsic, reproducible and not produced later, it would challenge the assigned chronology.

Question	Reason for asking
Was the signal above the full procedural background?	Instrument and chemistry backgrounds matter most near the method's limit.
Could modern carbon enter during preparation?	Small contamination can dominate a very old sample's remaining signal.
Could carbon-14 form within the material?	Nuclear reactions may produce carbon-14 after original formation.
Did another laboratory reproduce the result?	Independent replication reduces method-specific explanations.
Was the sample's provenance documented?	Collection, storage and treatment histories affect interpretation.

CARBON-14 CONCLUSION

Unexpected carbon-14 deserves an explanation. Detection alone does not establish the age of Earth, but an assigned ancient age does not make the signal disappear.

Diamonds: Fast Growth and Older Material

Diamonds can be synthesized rapidly under proper conditions. This proves that diamond formation does not inherently require millions of years. It does not prove that every natural diamond is young. The age of source carbon, inclusions, lattice history and geological setting must be distinguished from the speed of crystal growth.

Diamonds are also important in the carbon-14 discussion because their lattice may resist some ordinary contamination pathways. That makes carefully controlled measurements valuable. It does not eliminate laboratory background, sample processing or possible in situ production. The strongest argument will come from transparent preparation blanks, multiple laboratories and reproducible results.

Dinosaur Tissue and Protein Preservation

Peer-reviewed researchers have reported flexible vessel-like structures, cellular-looking structures and remnants associated with proteins in some dinosaur fossils. The observation is real. Popular language such as 'fresh meat' is usually misleading because the material is altered, fragmentary and chemically stabilized.

Young-earth researchers argue that molecular remnants should not survive for tens of millions of years under known degradation rates. Conventional researchers have proposed preservation through iron chemistry, mineral association, oxidative cross-linking and related pathways. These proposals should be tested, not accepted merely because the conventional age requires preservation.

The presence of endogenous remnants does not independently produce a young date. It does correct earlier assumptions that original biological material could never persist. The responsible conclusion is that preservation is more complex than once believed and remains relevant to the age discussion.

RATE, Accelerated Decay and the Heat Problem

The RATE project acknowledged evidence of extensive radioactive decay and proposed that much of it occurred rapidly during creation or the Flood. This is more serious than simply denying the isotope data. It attempts to incorporate the data into a recent chronology.

The proposal faces a severe physical problem. Compressing enormous quantities of nuclear decay would release extraordinary heat and radiation. Rapid tectonic movement would add further heat. Young-earth researchers have acknowledged the problem. A complete scientific model must explain the acceleration mechanism, the fate of the energy and the survival of the biosphere.

God could act miraculously. Theological possibility should be stated honestly. Yet when a model requires an unobserved miracle introduced only to remove each physical consequence, the investigator should acknowledge that the explanation is no longer a complete natural mechanism.

INTELLECTUAL HONESTY

A problem does not become unbelief because it is admitted. Naming an unresolved problem is how responsible research begins.

The Hardest Evidence for a Young-Earth Model

Evidence	Question the model must answer
Radiometric concordance	Why do different isotope systems and minerals often converge on compatible ancient ages?
Tree-ring chronologies	Can nonannual rings and crossdating objections account for the complete overlapping pattern?
Ice cores and lake layers	Can rapid accumulation reproduce seasonal chemistry, volcanic markers and depth relationships together?
Fossil succession	Can sorting, ecological zones and progressive burial reproduce the detailed order across regions?
Heat	How were accelerated decay and rapid plate movement accomplished without destructive thermal effects?
Distant starlight	How did the light arrive and why does it contain coherent information about distant events?

Earth and Universe Evidence Remain Connected

Earth and universe ages may involve different measurements, but a recent creation model must address both. Light from extremely distant objects carries spectra, motion and records of transient events. Created light already in transit raises the question of whether the information depicts events that never occurred. Relativistic and cosmological proposals must be evaluated mathematically and observationally.

None of these difficulties alone proves that a young Earth is impossible. Together they define what a complete model must explain. A few anomalies are not enough. The model must integrate the whole record and make predictions that can be tested.

How to State the Young-Earth Case Honestly

Most scientists presently accept an ancient Earth. Do not hide that fact.

Some observations are consistent with rapid formation and catastrophe. Present them at their actual strength.

Radiometric ages involve assumptions, but many assumptions are tested and cross-checked.

Unexpected carbon-14 and dinosaur molecular remnants deserve investigation, not automatic young-age conclusions.

Funding and worldview may influence science, but neither one erases a measurement.

A young-earth scientist need not be Christian, and a Christian scientist need not be young-earth.

Weak or obsolete arguments should be removed even when they once helped persuade people.

Unresolved heat, starlight, annual-record and concordance problems should be named plainly.

THE CONCLUSION IN ONE LINE

Important scientific observations can agree with a young-earth interpretation, but a complete young-earth model must account for the entire interconnected record.

Pastoral Counsel for the Church

Do not make Earth's age a test of salvation. Salvation is by grace through faith in Jesus Christ.

Do not mock a believer who accepts an old Earth or dismiss one who accepts a young Earth.

Do not repeat a weak argument because it appears to protect Scripture. Truth does not need false witnesses.

Do not answer a technical question with an accusation about motives when evidence can be examined.

Ask what observation most strongly influences the other person's view before preparing your reply.

Distinguish what Scripture states from a scientific model built to explain how the history occurred.

Allow scientists and pastors to say 'I do not know' when the evidence does not justify certainty.

Carry the conversation into Part Two and apply the same scrutiny to the old-earth case.

The Gospel Is Greater Than the Geological Model

Romans 3:23

For all have sinned, and come short of the glory of God.

The greatest human problem is not an incorrect age assigned to a rock. It is sin against the God who made us. A person may choose the correct chronology and remain unreconciled to the Creator.

Romans 6:23

For the wages of sin is death; but the gift of God is eternal life through Jesus Christ our Lord.

Jesus Christ died for our sins, was buried and rose again. He offers forgiveness and eternal life to every person who will repent and trust Him. Scientific investigation can describe features of creation. It cannot remove guilt, conquer death or reconcile a sinner to God.

The church therefore reasons carefully without turning chronology into a substitute gospel. Christians should care about truth because Christ is Lord of truth. They should also remember that the purpose of every Reason Together Study is ultimately to bring people to the Word of God and to the Savior revealed there.

Final Commentary Conclusion

Science does not unanimously agree with a young Earth, and the prevailing scientific interpretation is ancient. That statement must not be softened. It is equally true that rapid rock formation, rapid diamond growth, catastrophic deposition, sudden fossil burial, unexpected carbon-14 and dinosaur molecular preservation complicate simplistic claims that every feature requires vast time.

Radiometric dating is not a meaningless guess. It is a sophisticated reconstruction using measured isotope systems, mineral history and cross-checks. Its assumptions may be examined. Its failures may be identified. Its concordant results must also be explained. Young-earth alternatives gain credibility when they produce complete mechanisms and risky predictions rather than collecting only anomalies.

The proper conclusion for Part One is careful rather than triumphant. A young Earth can be discussed scientifically. Several observations can be interpreted within that chronology. The model still faces serious unresolved questions involving concordance, annual records, fossil order, heat and distant starlight. The church should neither surrender the question to consensus nor pretend the work is already finished.

FINAL COMMENTARY PRINCIPLE

Bring your questions. Open your Bible. Examine the evidence. Test both interpretations. Speak honestly about what is known and what remains unresolved.