

# Whizz! Bang! Wow! Holiday Club

**Exploring God through  
science and technology**



Through fun science-based activities, children are encouraged to discover more about faith and science. As well as experiments, discussions, crafts and quizzes, each session features a Bible passage to explore together, and tells the story of a significant scientist that helps us to unpack the session theme.

## **Session 1**

Can science help us to believe in God?

## **Session 2**

Can science answer all our questions?

## **Session 3**

Can faith be based on evidence?

## **Session 4**

Does science make it hard to believe in God?

## **Session 5**

Does science solve all our problems?

Session 1

# Can science help us to believe in God?

## GATHER | 15 MINS

Today we are going to look at a big, important question: Can studying the world, as scientists do, help us to believe in God?

Perhaps we should first ask: What do we already know about the world, our enormous universe? And, what have scientists found out about our planet so far?

For a long time, people thought the earth was the centre of the universe, and that the sun and everything else rotated around the earth. Fortunately, for us, this isn't the case! We and other life would not have coped – and most likely, not even existed. As it happens, the earth sits in a perfect and unique place within the cosmos. Astronomers, scientists who study the cosmos, and geographers have discovered some jaw dropping facts about this. Let's explore together!

### Goldilocks story

WE

Ask the children to talk in pairs about something they only like when it's cold (ice cream, snowball fights) and then something they only like if it's hot (chips). Ask some children to share their ideas. See if the children can recall the story of Goldilocks and the three bears.

### ASK

- Who was Goldilocks?
- What was she looking for?
- What was she looking for?
- What was she looking for?

A Gather activity introduces the question and gets everyone engaged and talking.

For me, from plants and parrots to porpoises and people. The earth officially sits in the 'Goldilocks zone'. Do you know what that means?

It's not too hot or too cold (the perfect distance to the sun), the strength of gravity is just right (so nothing collapses, and nothing flies away), earth has the perfect protective 'blanket' (atmosphere), it is just the right size and spins at the perfect speed. And there are many other things\* that allow life to thrive on planet earth. Isn't that awesome?

## Going further (ages 9+)

### The universe: coincidence or planned?

Science answers questions, such as:

- How are stars born?
- How do babies grow?
- Why are people heavier on larger planets?
- Why can't everything float on water?

There are lots of other questions that science can't answer, such as:

- What is love?
- Why do people give up their lives for others?
- How did the world begin?
- Does God exist?
- If so, was God created?

Science can't say much, if anything, about these questions. Does God exist? Science can neither prove nor disprove this.

Things point to someone very intelligent, powerful and good... who is involved in our world or... who was involved in making our world work so well. The position of the earth, its size, the speed at which it spins, its atmosphere and the amount of water and oxygen make our planet the perfect place for life. Coincidence or planned?

Also, the laws of nature are the same everywhere, and they are beautiful and work brilliantly. Is there a God who has designed all these laws so that the universe can operate in a precise and

**Extension** Read more in the fascinating science and faith adventure story 'Science Geek Sam and his secret logbook' (C Dekker and C Oranje, Lion Hudson, 2017).

### SHARE THE WORD | 15 MINS

#### A read and share idea

WS

Project and share the story presentation, see p.36

Offer the children a piece of paper and pen/felt tips. While the story is being read, show the story presentation on a PowerPoint or printout. Ask younger children to make sound effects for rain and animals that are mentioned (highlighted in blue), and older children to repeat any science words (in bold). Ask all the children to draw pictures of the 'science words' while the story is being read to them.

Science helps us to discover more about the world God has created.

Today we will read about God's conversation with Job, listening out for science words that describe our amazing world.

#### Job 38:1-7,34-41 God answers Job

Job asked God some questions and the Lord answered Job, speaking out of a mighty whirlwind.

God said, 'Who is this, who talks about my plans but doesn't really understand? Prepare yourself, Job; I will ask you a series of questions; Do you dare to reply?

Where were you when I laid the foundation of the earth?

Tell me, if you are wise.

Here's an easy one – Who measured the dimensions of the globe?

Who wound the equator around it?

Who determined the earth's place in the solar system?

Or set its orbit round the sun while all the stars

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Tell me, Job, can you hunt like a **lioness**, to feed her hungry **cubs** who crouch in their **dens**, or lie waiting in the bushes?

What about the **raven**? Who provides for its chicks when they cry to God for food?

#### Discuss

In the Bible passage where this story comes from, there are lots of science words, from the equator to the solar system; from clouds to creatures.

- Why do you think God uses all these words when he talks to Job?
- What have you learned about God in this story?
- How does God relate to his creation in this story? Imagine you were one of the creatures, say an ibis, rooster, lion or raven. How would you feel if you knew it was God who gives you your food and shelter? What would you say to God?
- What about us humans – how does God provide for us? (Remember the Goldilocks story and planet Earth)

**Did you know?** All life on earth was created to worship God, and even the mountains and seas praise him. See Psalm 148. How can we join in?

Not all Bible passages are meant to be scientific explanations, but there is a lot of wildlife science in the Bible.

Why do you think God inspired Bible writers to write about creation?

Why is God's creation important?

- Back to our big question: Can science help us to believe in God? What do you think?

### EXPLORE AND RESPOND | 20-60 MINS

Select activities based on your group age and size, time and resources.

#### 1 Big Bang balloon experiment

WS

You will need: a large balloon and a felt tip.

How can we understand the Big Bang, that marks the very beginning of our universe? What is the Big Bang and how did it trigger the formation of the universe, with billions of stars and planets?

A very long time ago, nearly 14 billion years, all energy and space and time were packed together in a tiny, incredibly hot and heavy speck. During the Big Bang, energy, space and time were released as the speck exploded, and everything dispersed. It's a bit like nuclear energy, which is a lot of very powerful energy packed together in tiny atoms – but this first speck was MUCH more packed and powerful.

Very slowly, thanks to gravity – the same 'pulling force' that keeps us safely on the surface of the earth – pieces began to clump together, and the first stars were formed. Over time,

Explore the Bible story  
and how it relates to the theme question.

our universe. Galaxies are moving away from each other. The universe is getting bigger and bigger all the time, and we can measure exactly at what speed it is expanding.

- Pop the balloon. Explain: Without God, the universe would not have happened. It would not have become so amazing. Without God, the world would have popped again very quickly, just like this balloon – with nothing left.

**Extension** For more stories and explanations about science and faith, please read the Science Geek books (*Science Geek Sam and his secret logbook* (2017) and *Science Geek Christy and her eco logbook* (2021)).

### 2 Solar system placemats

WS

**You will need:** a sheet of black A4 paper and a colouring sheet of our solar system and a picture of our solar system in colour (see templates at the end of this session) for each child, a laminator with plastic sheets, colouring pens, glue, scissors.. Some bright (glow-in-the dark) paint and paint brushes.

- Ask the children to colour in the different planets and the sun (and try to use realistic colours and patterns), cut them out, stick them in the far left).
- Ask the children to colour in the different planets and the sun (and try to use realistic colours and patterns), cut them out, stick them in the far left).
- Paint the planets and the sun with the glow-in-the-dark paint.
- Leave the placemats to dry.



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them throw' another.

- Put a blindfold over their eyes and let them throw. How did they get on?
- Ask them to imagine throwing from 20 metres away with a blindfold, when they don't ever know where the bullseye is. How likely is it that they'd hit the bullseye the first time? Hitting it would be such a coincidence that it can't be coincidence.

### Discuss

- Do you think God created the universe and our 'perfect-for-life' Earth with great care and purpose, so that we and other creatures can live here?

### 4 Fizzy bomb explosion

WE

**You will need:** baking soda (or bicarbonate of soda), 150ml white vinegar, 50ml warm water, a square of paper tissue (10x10cm), a small, resealable, transparent sandwich bag (in which you could snugly fit about 200ml of liquid), tablespoon and measuring jug.

**Tip** Test your fizzy bomb-making skills before your session, to make sure it works.

• Gather all the ingredients and equipment. Put everything on a

Choose two or three activities/  
experiments/ games/ discussions  
to explore the theme question,  
plus crafts and songs.

It's optional to run these as stations  
or all together as a group.

### 5 'Goldilocks Earth' drama

WE

Enlist some children to help you perform this drama, with audience participation. You could perform this again at a weekly service or at the end of the holiday club, for the parents.

**You will need:** four copies of the script (see the next page), a different colour highlighter to highlight each of the the speaking parts for each actor, four actors: Narrator, Earth, Sun and God. (Optional) props: a cardboard or inflatable sun and earth.

### MEET A SIGNIFICANT SCIENTIST | 5-10 MINS

Project and share the scientist's profile, see p.43

Each session we'll meet a significant scientist. Our first significant scientist, Georges Lemaitre, was born in 1894, in Belgium.



#### Georges Lemaitre

Born in 1894 in Belgium.

Georges was very curious and loved science, and he also loved God. He became a priest in the Roman Catholic church AND a brilliant scientist. He was kind, modest and very brave. As a young soldier, he fought in the First World War and received a special medal for his bravery. Georges was very good at maths and physics and enjoyed studying the cosmos (space and the universe). After a while, he discovered something new and amazing: that the universe had started from a single, extremely hot and heavy point. He also discovered that we can calculate this point in time, namely nearly 14 billion years ago, and that the universe has been expanding ever since. The explosion that marked the beginning of the universe is now called the Big Bang. However, at the time, many scientists including Georges' good friend Albert Einstein initially disagreed with this theory.

**For each session,  
we profile one scientist  
and explore how  
their journey helps us  
with the theme question.**

Watch this video – leaders will find it helpful.  
[How a Priest Discovered the Big Bang](#)

### REFLECT AND WRAP UP | 15 MINS

#### Discuss

- What is something you've learned this session?
- Do you think Georges Lemaitre is interesting or impressive? Does he inspire you?
- Think back on the drama about the Goldilocks zone. Isn't it awesome how God made the Earth perfect for life, including us?

There are many other examples of how God created everything brilliantly, so that life isn't just possible, but very good. We haven't got time to explore these, but perhaps you could look into this at home or in school. Examples are the human body and all its cells; eyes and brains; rainforest ecosystems and how everything hangs together so that life can thrive; soil; the 'wood wide web' – how trees work together all the time, including other creatures like fungi.

- Back to our big question: Can science help us to believe in God? What do you think?

#### Sing

The perfect place (see lyrics on the next page).

#### Pray

(see suggested prayer on the next page)

### Sing

#### The perfect place

To the tune: backing track: 'Every move I make', Hillsong Kids

(Na na na na na na x4)

God is great He made the perfect world,  
It is so amazing:  
Perfect planets, perfect stars and moons.

Planet Earth

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(Bridge:)

Not too big and  
Not too tiny –  
Planet Earth is just  
the perfect place.

We adore our  
God creator,  
Who shows the world, his  
amazing grace.

(nananana, etc. x2)

God is great He made the world,  
It is so amazing:  
Perfect planets, perfect stars and moons.

Planet Earth is not too hot or cold,  
It is just amazing.

God's gravity keeps us on our toes.

(Bridge:)

Not too fast and  
Not too slowly,  
Planet Earth spins at  
the perfect pace.

We adore our  
God creator,  
Who shows the world his  
amazing grace.

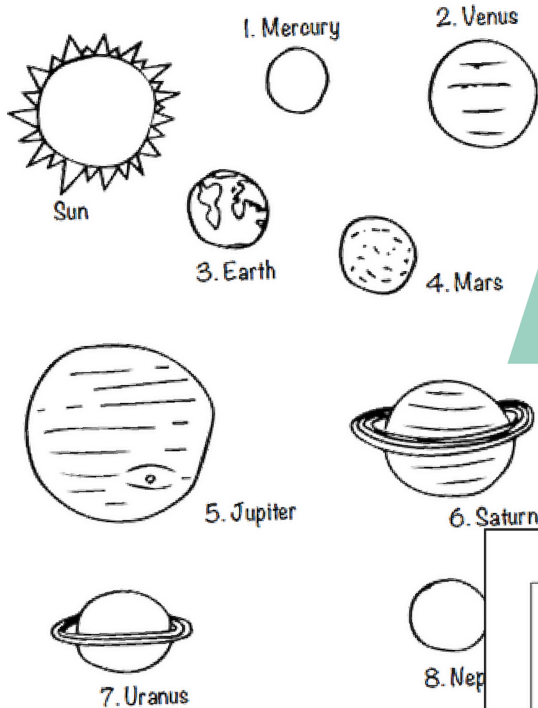
(nananana, etc.)

### Pray

Dear Heavenly Father,  
you are the awesome maker of the universe. You created  
space, time and life.  
Thank you for our Sun, our Moon and planet Earth.  
Thank you for making our planet,  
the perfect place for life.  
Thank you for making it just the right size, in the right  
place, spinning at the right speed and with the perfect

**Specially-written songs and prayers  
complement each session's theme.**

Template for Session 1, Activity 2: Solar system placemats.  
p.1 of 2



**Worksheets and templates,  
ready-prepared for you**

Template for Session 3, Activity 1: Fossils ID sheet

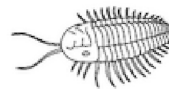
Ammonite (a squid)



Coral



Trilobite (arthropod)



Belemnite (a squid)



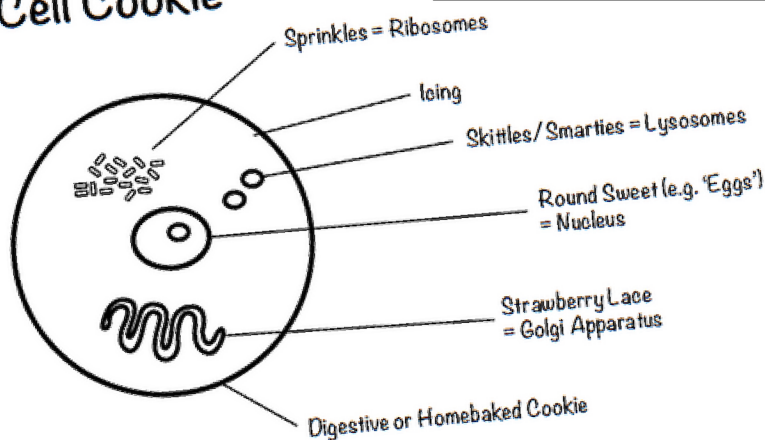
Sea lily (or erinoid)



Devil's toenail (or Gryphaea, an oyster)



### Cell Cookie





### Bible stories to print or project

#### Psalm 19 Wonder at God's creation

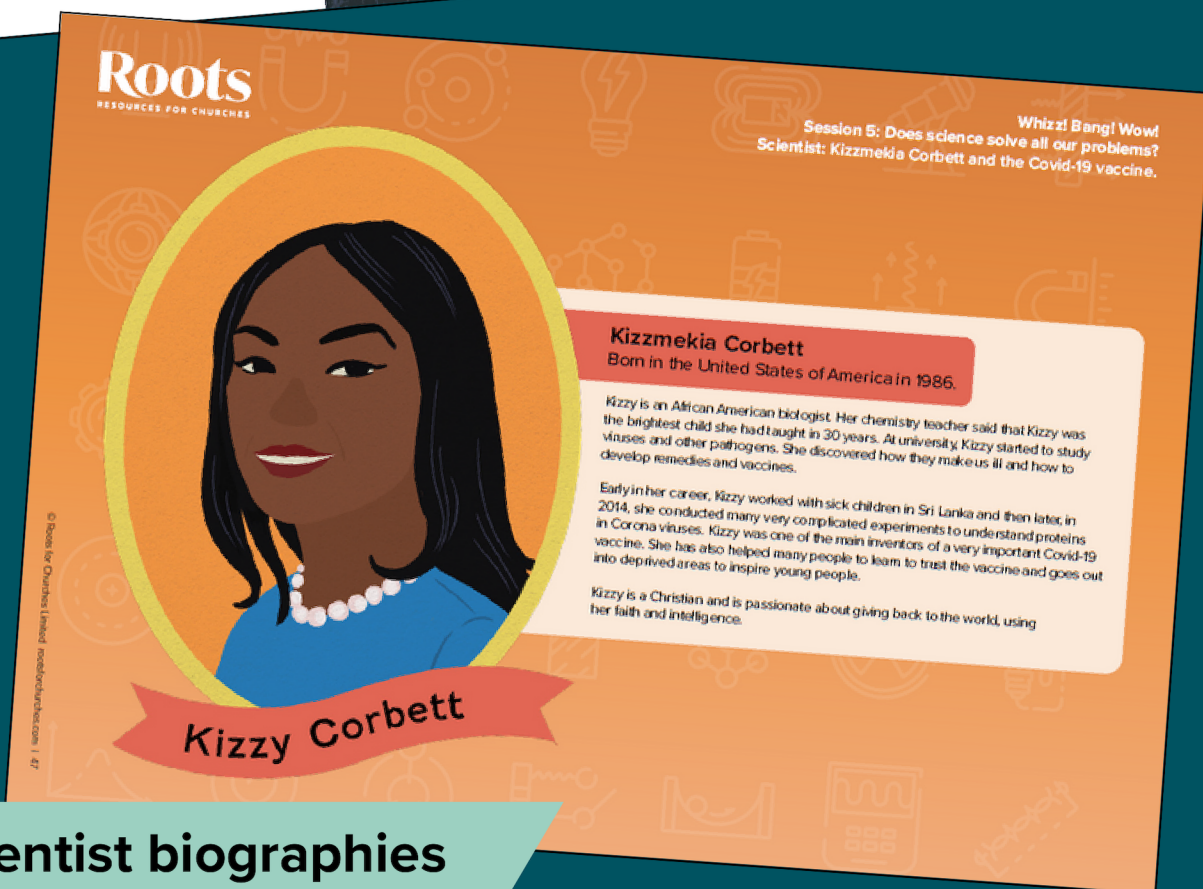
The heavens announce the glory of God;  
The skies proudly shout, 'See all that God's made!'!  
Nothing can silence their speech every day;  
'God knows everything!' The night-sky displays.

They don't use voices; they don't speak in words;  
Strain hard as you can, there's nothing to hear;  
Yet all through the earth their voices ring out,  
And their praises resound in every ear.

Just take a look at the bright rising sun,  
Eager as a groom on his wedding day;  
All round the globe watch him circle with joy,  
Nothing can hide from his heat on the way.

The body revives in the sun's warm rays,  
So God's perfect law gives life to the soul;  
A fool is made wise, by following God's rules;  
A straightforward path that's trusty and whole.

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#### Kizzmekia Corbett

Born in the United States of America in 1986.

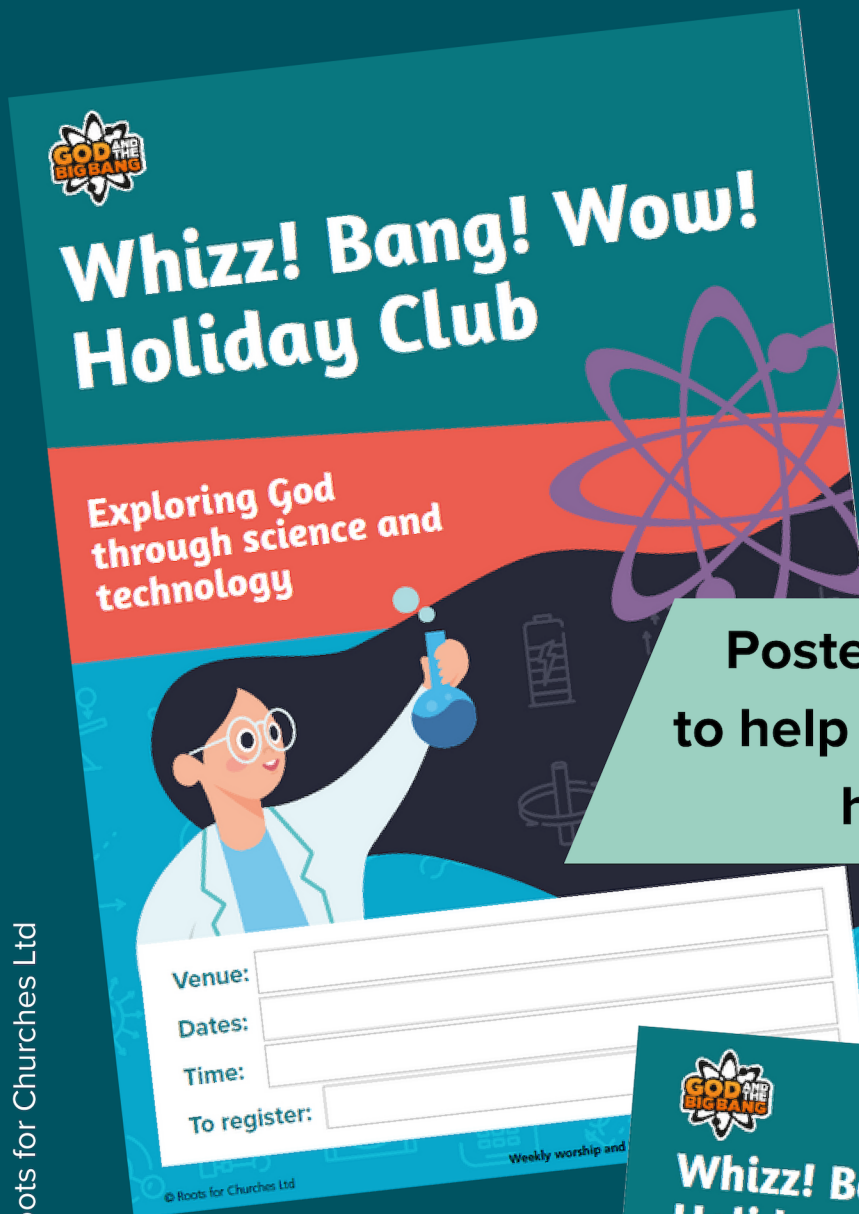
Kizzy is an African American biologist. Her chemistry teacher said that Kizzy was the brightest child she had taught in 30 years. At university, Kizzy started to study viruses and other pathogens. She discovered how they make us ill and how to develop remedies and vaccines.

Early in her career, Kizzy worked with sick children in Sri Lanka and then later, in 2014, she conducted many very complicated experiments to understand proteins in Corona viruses. Kizzy was one of the main inventors of a very important Covid-19 vaccine. She has also helped many people to learn to trust the vaccine and goes out into deprived areas to inspire young people.

Kizzy is a Christian and is passionate about giving back to the world, using her faith and intelligence.

Kizzy Corbett

### Scientist biographies to print or project



Poster and postcards  
to help you promote your  
holiday club

