11 Wild on the move!

By Dawn Savidge

We are grateful to Hymns Ancient and Modern for a grant towards the costs of Messy Adventures – **hymnsam.co.uk**

Theme: movement and energy, stillness and space

Aim: to appreciate and understand more about the different energies at play in God's wonderful world.

Science advisor: Richard Clarkson

Messy Church values:

- Christ-centred – discovering more about how Jesus is at work through dynamism and stillness through the story of Jesus walking on water Matthew 14:22–32. You can also use this session to look at the story of Elijah in 1 Kings 18.

- Hospitality – stopping still to notice the homes of other creatures.

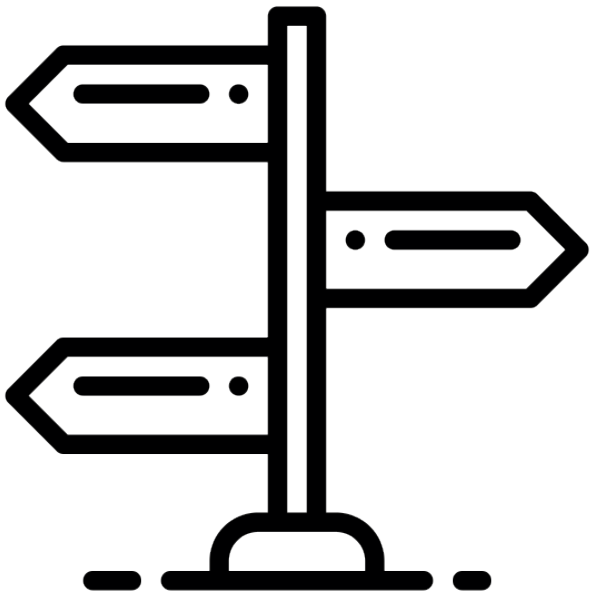
- Celebration – rejoicing in the ways that everybody is different and appreciating movement and stillness in others.

- Creativity – imagining different ways we connect with the world.

- All-age – opportunities for all generations to reflect on the wonders of the earth.

Locations: this session is very flexible and could happen almost anywhere there is space to run around safely.

Section 1 On the move



1 Space

Outdoor space – both large and small, e.g. park, car park, alleyway

- Pause in a space. Choose whether you will do a small or large space first.

- Get the group to see what they notice about the space.

- Get them to change positions – it could be seated, standing on somebody's shoulders, lying down, crouching. What different things can you see or hear as you move around?

- Which space did you like better and why? The small (alleyway) or the large (park)?

- Talk about how Jesus would often spend time on his own outdoors so that he could re-energise. Talk about the feeding of the 5,000 and how Jesus went away to be on his own with God after being with all those people (Mark 6:30–46). Where might you go to be with God or just to regain your energy? Have you got a quiet place that's special to you?

Ask: what questions do you have about this?

Suggestions for specialist input: architect, landscape gardener

2 Energy

Park – somewhere where you can kick a football or throw and catch a ball

- Pause in the space.

- Get out a football and/or a tennis ball.

- Talk about what happens when we kick a football.

- Talk about the role of a goalkeeper or a fielder (in cricket or rounders). Do you think it hurts their hands when they try to catch the ball? Why?

- Have a group game. You might like to try football, rounders or just simply throwing and catching the ball (depending on the space).

- Talk about what you like or admire about the way other people in the group move!

- When two objects interact with each other, each exerts equal and opposite forces on each other, which means that your hand will feel pain if the ball hits it too hard.

- The Bible says that you will harvest what you sow. Jesus said 'love your neighbour' – talk about how quickly fights and quarrels can grow if we try to get our own back and retaliate (for example, throwing the ball back harder to try to hurt the person who hurt us), rather than loving our neighbour.

Ask: what questions do you have about this?

Suggestions for specialist input: sports or physics teacher

3 Movement

Park with swings and slides or an open field where you can put some sports equipment out like football, bats, skipping ropes etc.

- Pause in the park and ask the group what they can see. How will they decide what to do first?

- Invite the group to go and play for a while.

- Gather them back together and talk about the movement of the objects that they have just used. (A swing moves back and forward with gravity. A seesaw moves up and down on a fulcrum. A roundabout uses centrifugal force.)

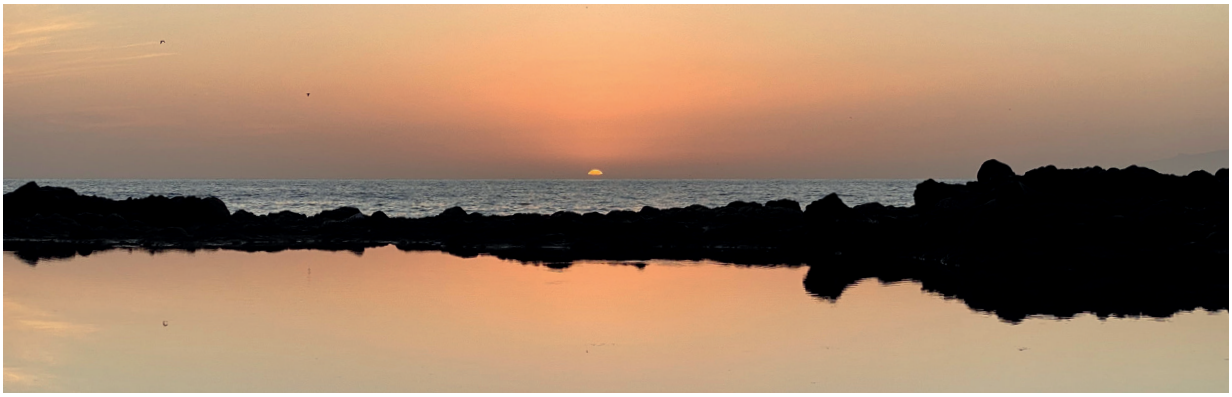
- Everything that you have been playing with involves a physical movement. As human beings, we are made to move. How do people worship God through movement? (And how else could they worship God through movement, ways which nobody else might have thought of yet!?)

- Some people describe growing churches as a 'movement'. Tell the story about the first 'church' and how it moved and grew (Acts 2).

- Would you say our Messy Church is still or on the move? Is that good or not?

Ask: what questions do you have about this?

Suggestions for specialist input: physicists



4 Stillness

Pond or a body of water (use a bucket of water if you can't find an open source)

- Pause by a pond or body of water. Ask the group what movement they can see on or in the water. You might need to be very still to notice movement of tiny creatures underwater or on the surface.

- Choose a small stone. Ask the group what will happen if you put the stone into the water. Gently drop the stone in the water. Was the group right? What happened to the stillness of the water? Take turns to drop in pebbles and watch what happens. How far do the ripples spread?

- Can you see any ducks? How are they swimming? Talk about what the ducks' feet are doing invisibly underneath the water. Who can you think of who seems to be sailing along calmly through life? I wonder what's going on 'underwater'? You might want to pray for them now.

Ask: do you have anything that disturbs your stillness? You might like to tell God what some of those things are.

Suggestions for specialist input: wildlife expert

5 Moving world

Any space with trees or plants, such as a field, wood, garden, park

- What can you see moving in this space? What power is making each thing move? Where does that power come from? Wind? Gravity? Wings?

- What's the fastest-moving thing you can see right now? Is fast always good for humans? When is it good to be speedy?

- What's the funniest movement you can see? A bumblebee? A frog? A flapping branch?

- What's moving but too slowly for us to be able to see it? (Plants growing, trees leafing, the planets spinning in space). When is it good for humans to be slow?

- Have a slow race: see who can be the last one to reach the finishing line but always be on the move forwards. Talk about the different ways older people and younger people move – what do we admire in other people and what do we like about the way our own bodies move – perhaps we've learned a special trick that only we can do, that we can show off?

- Jesus was often on the move, walking along roads with people, going from one place to the other, even after he came back to life (tell the story of the Emmaus Road from memory). Why do you think he spent more time outside on the move than in synagogues or in the temple? Can you think of times he worshipped God outside? Do you like worshipping God inside or out?

Ask: what questions do you have about this?

Celebration

Invite everyone to share one new thing they've learned today and one thing they're going to do this week that's different because of what you've done today. Remember to ask about how you all got on next time you meet.

Prayer in an open space

This is more of an active prayer. We have seen different ways that energy, movement, stillness and space are present in our community. Everywhere you look, they are present. Some people in this group believe that God is everywhere, which means that he can hear our prayers wherever we say them. You might like to take a little walk around this space and talk to God. You might like to tell him about something beautiful that you have seen today or a problem that is worrying you. When you have finished, come back to this space and wait quietly for others to finish.

As you leave

Invite everyone to talk on your way home about where you saw God at work today.

Section 2 Adventure area in one spot

Meet at a park (field, park, open space)

- Stand in the space. Ask the group what they first notice about the space.

- Have a little wander around. Let the group move as they want to – some will walk, some will run. Come back together and talk about how they moved and what they noticed. Everyone moved in a different way and saw different things.

- Invite people to take a printed copy of the story of the early church (Acts 2 or find an amplified version from a family Bible story book). Explore the area and find the best spot to read the story together.

- The early church didn't have a lot of space to hold church services. They often met in people's homes in small groups. Some of the Messy Churches around the world also have small spaces. They have to be creative in using their space, maybe doing Messy Church outside; a bit like you are doing today.

- Think about your Messy Church. Is there a way that you can better use your space, make your welcome better, do more activities outside?

- Design a Messy Church activity outside that will help new people feel welcome to your Messy Church.

- Use a selection of the activities in section 3 to explore the properties of movement, energy, stillness and space.

- Have a look at the area. Is there any litter around? How might that affect the wildlife?

- Do a litter pick before you leave.

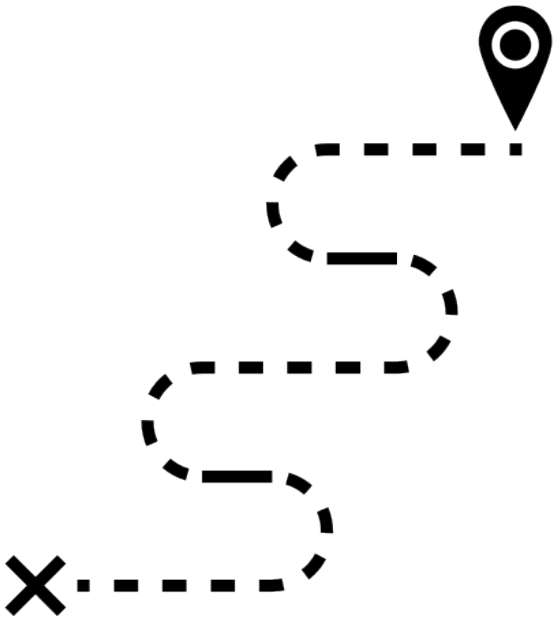
Wonder:

- Space, energy, movement and stillness is all around us. Some people like big open spaces. Some people like small, enclosed spaces. Some love to run around and move fast. Others like to be still and quiet and watch the world go by. What do you prefer? Is it okay that everyone is different? How do you make sure that your Messy Church Goes Wild is working for everyone who might like to come, whether they move fast, slow, painfully or in a wheelchair?

- The Bible says that when God made you, he made you unique. That means that there is nobody else who is exactly the same as you. How does that make you feel?

- When we first moved into this space, we probably didn't notice a lot. It was only when we stopped and explored that we saw things that were first unseen. How might you spend more time being still and taking time to enjoy what is around you? It might be investing in a relationship with a friend or family member, a hobby, noticing God in your life, exploring the area you live in.

Suggestions for specialist input: Messy Church leader



Section 3 Activities to explore movement and energy; stillness and space

1 Energy can be loud

You'll need: a length of string (about 4ft); different metal spoons; a ruler

What to do: tie the spoon with a loop in the middle of the string. Wrap the two ends of the string around your ears so that the spoon is hanging down in the middle. Don't put the string in your ears, just use your hands to hold them. Get somebody to gently tap the spoon with a ruler. Try again with different types/sizes of spoons or spoons made of different material like wood.

Big thinking: sound waves are caused by molecules vibrating and bumping into each other. Our ears are well designed to hear sound waves that are travelling through the air (at a speed of around 340 metres per second) but sound waves can travel through all sorts of materials. The more closely packed the molecules are then the faster and further the sound waves can travel. In a liquid like water, sound waves travel faster (nearly 1,500 metres per second) which is one of the reasons whales can communicate with each other across whole oceans. In a solid like steel, they travel faster still (5,000 metres per second!) which is why, when you're waiting for a train to arrive at a station, you might hear the tracks begin to hum before you can see or hear the train arriving – these are the sound waves caused by the train wheels on the tracks. The piece of string holding your spoon is a solid, so it is really good at transferring the sound waves from the vibrating spoon to your ears.

? **Big question:** what did you hear? Does the sound change according to the size of the spoon? There are lots of stories in the Bible where people used loud voices. Sometimes it is with sadness. Sometimes it is with anger. Sometimes it is with joy. Sometimes it is so that large crowds of people can hear. I wonder when you use a loud voice and why?

2 Energy can be quiet

You'll need: paper cups or tin cans with safe edges; strong; scissors.

What to do: make a cup telephone by piercing the bottom of two cups and threading a long piece of string between the two. Make the string as long as you can so that the people using it are stood a long way apart.

Get one person to whisper a message to another person through the cup phones. Did you hear it?

Make sure that the string is stretched taut between the two cups as the sound waves will travel better along it. See what happens when you let it go slack. Does the volume of the sound change?

Big thinking: the loudness of a sound wave is determined by the amplitude, or size, of the wave. The further a sound wave gets from its source, the quieter it will become. This is because the wave gradually loses energy as it is absorbed into the air and other objects around it. The loudness of sound waves is measured in decibels (dB). Every increase of 10dB means that the sound wave carries 100 times more energy. A whisper is about 30dB, a normal speaking voice is about 60dB, a lawnmower is about 90dB and an aeroplane taking off is about 120dB!

Big question: there is a story in the Bible where Jesus and his disciples are travelling on a boat in the middle of a storm. It is very scary, and the disciples are worried that they might be thrown into the sea. Jesus stands up and speaks to the wind and the waves, and then there is quiet. What do you think about that story? What would you ask Jesus for today?

3 Movement can be fast and slow

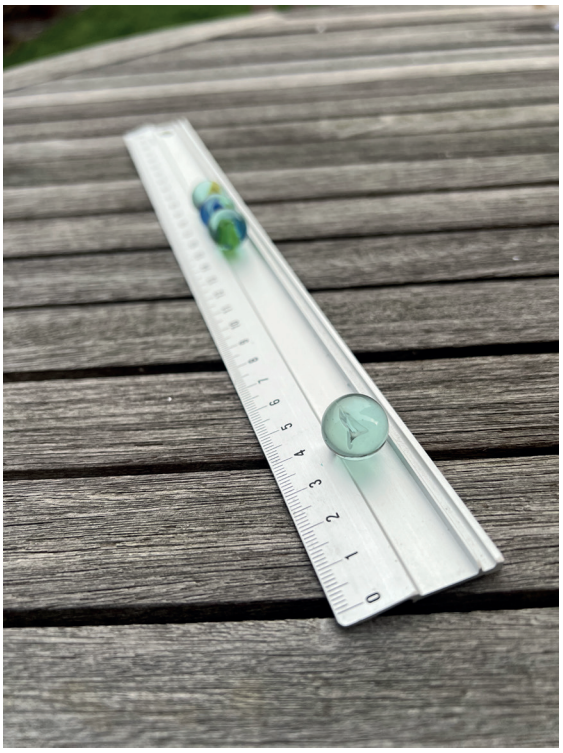
You'll need: magnifying glass; timer on a phone or a stopwatch; ruler or tape measure.

What to do: did you know that there are lots and lots of creatures living under your feet? Some of them move slowly and some of them move quickly. Turn over some rocks and see if you can find some minibeasts who move really quickly or really slowly. Can you work out how fast they're moving by using the timer and the ruler or tape measure?

Big thinking: for all animals, moving takes energy. The faster an animal moves, the more food it needs to eat in order to keep its energy levels up. Some creatures (like blue whales or swifts) deal with this by eating as much as possible, others (like sloths or pythons) by moving as little as possible. Lots of animals work together to make sure that everyone in their family or colony has enough and to protect themselves from predators – wolves hunt in packs, bees forage in groups and birds fly in flocks. As you watch the minibeasts, see if you can work out why they are moving fast or slow.

Big question: what minibeasts do you know that move quickly that you might not have seen today? Minibeasts such as ants move quickly and often in a large group, to help move things about. They don't often work on their own. In the Bible, Jesus had a close group of friends who did stuff together. I wonder who your group of friends are and what you do together.

4 Energy can be transferred



You'll need: a ruler with a groove in the middle; some marbles.

What to do: place three marbles in the middle of the ruler and one at the edge. Ask the group what will happen to the marbles if you flick the outside one into the group of three. Observe. Try with different configurations.

Big thinking: Isaac Newton was a famous scientist who lived from 1642 to 1727. He came up with three laws of motion which explain a lot of what we see in the world around us. The first law says that an object that is moving will keep moving, and an object that is still will remain still, until an outside force acts on them. The second law says that the heavier an object is, the more slowly it will start to move (accelerate) when a force is applied to it. The third law says that every action has an equal and opposite reaction – for example, when a rolling ball meets a stationary ball the forward force sets the stationary ball rolling, but the opposite force causes the moving ball to stop. When the rolling marble meets a stationary one, it exerts a force on the stationary one which makes it move. The rolling ball will slow down or sometimes even stop.

? **Big question:** just as energy can be transferred from objects so can our words. Our words have the ability to be able to heal people or harm people. The Bible says that our tongues are sharper than a double-edged sword. What does that mean? How can you use your words to be kind to people?

5 Energy can be invisible

You'll need: an orange and a bucket of water, phone microscope or magnifying glass.

What to do: see if the group can predict if the orange will sink or float. Place it in the water – it floats. Now peel the orange and ask the same question. Place it in the water – it sinks. Look at the skin of the orange. Can you see anything unusual about the orange peel?

Big thinking: over 2,000 years ago a Greek inventor called Archimedes realised that the amount of water displaced (pushed out of the way) by an object is equal to the weight of the portion of the object that's under the water. This is called buoyancy and is known as Archimedes' Principle. If an object weighs less than its equivalent volume of water then it will float, and if it weighs more then it will sink. Adding air to an object is a good way of decreasing its density (the amount of mass in a given volume). This is why a solid steel ball would sink but if that same ball were hammered out into a bowl shape it would float. In the case of the orange, the skin has air inside it and traps air inside the orange, so it floats.

Big question: when we peel the orange, it is like we are taking off its life jacket. The peel contains air pockets which are invisible to our naked eyes. Some people in this group believe that God is like a life jacket. When he is near us, God can protect us through hard times. What do you think about that? What might you ask God's help for?

6 Energy can be surprising

You'll need: two shallow glass bowls, dry sand, water, and a sunny day!

What to do: place the shallow glass bowls on the ground in a sunny spot. Fill one with a layer of sand – 1–2 cm deep. Fill the other with water, to the same depth and the sand in the other. Leave them in the sun for ten minutes, then come back and feel how hot the sand and water are. Is there a difference? If you have a thermometer, use it to measure their temperatures.

Leave it for a further ten minutes and feel how hot the sand and water are again. Keep coming back every ten minutes to see if one is hotter than the other. Does the water get as hot as the sand? How long might it take?

You can estimate this by noting the different temperatures of the sand and water. If you are using a thermometer, note down the temperature every ten minutes. See how fast the water warms every ten minutes. If the temperature difference is five degrees centigrade, then it is warming by half a degree per minute. Now subtract the water temperature from the sand temperature and divide this by the rate at which the water is warming. This will give you an estimate of the time the water will take to get as hot as the sand

If you don't have a sunny day, you could try the following instead but please consider doing it as a demonstration, so you only use two balloons. Blow up a balloon. Light a birthday candle and hold the flame under the balloon – it pops. Now blow up another balloon but fill it up with a little bit of water. Hold the lit birthday candle under the balloon again, directly where the water is sitting. Will it pop this time?

Big thinking: heat is the transfer of thermal energy from a warmer object to a colder one (never the other way around). The heat capacity of a substance is the amount of thermal energy that needs to be transferred in order to raise its temperature by a given amount. A material with a low heat capacity will warm up very quickly when heat is applied – think of a teaspoon in a cup of tea. A material with a high heat capacity will take a lot of energy to warm up – think of a pan of baked beans on a hob. Sand has a low heat capacity and is warmed quickly by the sun. Water has a large heat capacity and warms only slowly. Perhaps you have been on a beach on a sunny day when the sand is too hot to walk upon. But if you go paddling, the sand under the water will still be cool and the water only heats slowly. With the balloon, the water inside increases the heat capacity of the balloon, so it takes longer to reach bursting point.

? **Big question:** the water and the sand or balloon have different heat capacities. It is a bit like people; some are 'hotheaded' or 'blow up' and get angry quickly. The Bible says that we should be quick to listen, slow to speak and slow to anger (James 1:19). What do you think of this? Do you become angry quickly? Could you ask God to help you listen more. Jesus also said the Holy Spirit is like a stream of fresh, cool water (John 7:38). Knowing how water only heats up slowly, ask the Spirit to help you stay cool and calm!

7 Energy can be powerful

You'll need: wooden lollipop sticks; rubber bands; glue; bottle lid; cotton wool balls/balls of paper.

What to do: build a catapult from the materials. Pop an elastic band around a stack of six lollipop sticks. Attach another lollipop stick across the middle of them all so it makes a cross shape. Pop a lollipop stick at the bottom of the stack so that it forms a cross-shape. Fasten the top and the bottom sticks together with an elastic band. Glue a bottle top onto the top of the lollipop stick and wait for it to dry. (You could do the gluing in advance or use a glue gun) Now it's time to launch the cotton wool balls from your catapult. What happens when you add more force to the bottle top? Does the cotton wool ball fly further?

Big thinking: energy can take lots of different forms including kinetic energy (when something is moving), thermal energy (when something is hot), sound energy (when something is making a noise), gravitational potential energy (when something is high up) and elastic potential energy (when something is stretched). Energy can be transferred between these different forms but can't be created or destroyed. For example, when an elastic band is stretched the kinetic energy from your moving hand is transferred into elastic potential energy. When the elastic band pings back it converts all that potential energy into kinetic and sound energy.

Big question: did you know that a catapult has to be anchored? If it isn't, there is a risk that it will break. There are some people in this group who believe that God is the anchor to their life. Like a ship's anchor that stops the boat drifting away, God helps guide and direct a person's life. What do you think about this? What helps guide you through life at the moment? Do you think it would make a difference to your life if you asked God to be your anchor?

8 Stillness can energise you

You'll need: lots of room to run around in.

What to do: play a running game until everyone is tired. Ask them how they feel. Now play a stillness game such as sleeping lions. Ask them how they feel now.

Big thinking: your body uses glucose (from food) and oxygen (from breathing) to give your muscles energy in a chemical process called aerobic respiration. When you exercise your body can't get enough oxygen to keep your muscles supplied with energy. When this happens, your muscles start getting energy in a different process called anaerobic respiration. This doesn't need oxygen but it's not as efficient and produces lactic acid which can give you a pain in your side called a stitch. Resting gives your body time to restore its energy supplies and oxygen levels back to normal.

? **Big question:** Jesus used to go into the desert and find quiet places to listen to God and also to re-energise himself. Sometimes when life is busy we become very tired, a bit like playing that game. Taking time out to be still can re-energise us. How do you re-energise? What is your favourite way to be still? You might like to find a quiet spot outside to sit down and talk to God about what your day has been like.

9 Stillness can calm you

You'll need: nothing – but a cauliflower might help with 'big thinking'.

What to do: lie on your back or sit down so that you can see the clouds above. Keeping quiet, have a look at the moving clouds and see if you can make any shapes from them. Did you see a bear or a car? A unicorn or a monster? After a few moments, share with each other what you saw.

Big thinking: the shapes we see in the clouds are down to our imagination. But there are shapes in the clouds. If you look carefully at the edge of a cumulus cloud – one that looks fluffy and bumpy like a cauliflower, you might see that it follows a pattern caused by small motions of air inside it. And if you could look even closer, at a very small part of the cloud's edge you would see the very same pattern but just smaller. This is what scientists and mathematicians call a fractal pattern. You can see fractal patterns in a cauliflower. Look at the centre of the biggest floret and you will see a spiral pattern coming from its centre. Now look at smaller florets. You might see the same pattern.

? **Big question:** our eyes are amazing. When we first look at an object, we might not be able to see it all. But by being still, our eyes and senses start tuning in to a lot more around us. Prayer calms a lot of Christians. Some people in this group believe that God gives us peace in every situation. The Bible says not to be anxious about anything, but to pray (Philippians 4:6). What do you think about this? What situation might you ask God's peace for?

10 Energy, stillness, movement and space – it is everywhere

You'll need: materials to make an open fire or use a camping stove; camping kettle with cold water in it; wooden sticks; marshmallows; hot chocolate; mugs and/or ingredients to make s'mores (see Messy take-out section).

What to do: make/light the fire. Get the group to fill the kettle with the cold water. Ask what will happen if it is put on the fire. Give everyone a couple of marshmallows and a long wooden stick. What does it feel like now? What does it taste like now? Thread the other one on to the stick and roast it over the fire. How has it changed? Whilst you are boiling the water and roasting the marshmallows, talk about how energy, stillness, movement and space is all around us. Where can people see it now?

Big thinking: fire needs three things in order to burn – oxygen, fuel and heat. In a bonfire the oxygen comes from the air, the initial heat comes from the match or lighter used to start the fire and the fuel is the wood that forms the bonfire. The energy stored in the wood, which is released as heat and light in the bonfire, was captured from sunlight by the tree when it was growing. That sunlight was produced in a nuclear fusion reaction in the heart of the sun where hydrogen atoms were fused together to create helium. The hydrogen atoms were likely formed a few minutes after the big bang, nearly 14 billion years ago, and may well have passed through a star or two on their way to the sun, so bear that in mind if you think your marshmallow is taking a while to cook!

? **Big question:** physics is all around us. From the way that we hear things, see things and move things. Some people in this group believe that God is everywhere. What does that mean to you? If God is everywhere, it means we can talk to God anywhere, anytime, any place. You might like to tell God something now.

Bigger activities

- Build a dam and watch how the movement of the water changes.

- Build a rocket and attach it to the end of a hose pipe. Observe how water moves the rocket.

Section 4 Celebration

Get the group to act out the story of Jesus walking on water found in Matthew 14:22–32.

When do you notice stillness in this story?
When do you notice movement?
What surprises you most about this story?
What does this story teach us about God?

Alternatively, explore movement through the story of Elijah and King Ahab in 1 Kings 18.

This story involves lots of participation. Get one person to play Elijah and one to play King Ahab. You might also want a horse to pull the chariot. The rest of the group can be noise makers – wind and rain.

Tell the group that you are going to tell them the story of the fastest person in the Bible. Start off by retelling the story of Elijah in 1 Kings 18. It hadn't rained in Israel for a long time. King Ahab was not a nice man and wanted to kill Elijah. Elijah had warned King Ahab that it would not rain in Israel until God allowed it, but King Ahab did not believe him. After many weeks of no rain, Elijah told King Ahab to go and get something to eat and drink for it was about to rain. Elijah then went up a mountain to pray. Suddenly, a big black cloud appeared. Oh no – it looked like the rain was going to come. The skies got darker and darker, and the wind blew more and more. Elijah shouted to King Ahab, 'quick, climb in your chariot and go home otherwise the rain will stop you'. King Ahab saw the dark clouds and quickly left for home. Then God gave Elijah special strength. He tucked his clock into his belt and ran quickly away from the rain; he even passed the chariot.

You might want to sing together. Some songs could be 'Running' by Hillsong Worship; 'Deep cries out' by Bethel Kids; 'Every move I make' by Integrity Kids; 'Way maker' by Allstars.

Section 5 Eating together

Pick an idea from the Messy take-out menu or another source for outdoor meals, snacks and treats.

Food that moves would carry on the theme and provide a talking point: peas on plates, popcorn that explodes in a pan over the fire, wobbling jelly, rolling grapes or berries, gravy or sauce that pours and moves, small potatoes, melting chocolate would all work.