God is Creator Teacher's Topic Guide Year 3

Topic: Senses of Touch and Hearing **Duration: 5 weeks**

Finding out through the sense of touch

We use our senses to find out about the world around us. We know how something feels by using our sense of touch: rough, smooth, wet, dry. Our sense of touch helps us find out the truth about the world that God created.

How can we find out whether an idea is true? God helps us to do that when we ask Him to show us. God has given us the Holy Spirit to show us what is true and what is false. As we listen to God's voice and get to know God's word, we will know what is true. Jesus said, "I am the Way, the Truth and the Life."

Outcomes:

- explain how our sense of touch helps us to find out about things around us
- explain how we find out whether ideas in the world around us are true or false
- be able to identify what parts of the body are used for our sense of touch
- be able to predict some of the things they would be able to feel if they were put in a situation
- discover objects based only on the sense of touch

Biblical stories and passages

Psalm 115:4-7 Those who worship idols: "Their gods are made of silver and gold formed by human hands. They have mouths but cannot speak, and eyes but cannot see. They have ears but cannot hear, and noses but cannot smell. They have hands but cannot feel, and feet but cannot walk."
Luke 8: 40-56 The woman who touched the hem of Jesus garment.

Key question:

How do we find out about things?

Activities for touch

- Explain that the things that we touch have many different textures: rough, smooth, soft, hard. Explain that we not only use our hands for our sense of touch, but if we have our shoes off, we can also use our feet.
- Show the students a picture of a beach scene, or ask them to imagine it. Ask the students to make a list of the things that they think they would be able to touch and feel if they were in this picture. Encourage the students to share their ideas.
- The 'feely game'. Put some familiar items inside socks or brown bags, and have the children feel them and guess what they might be. Explain that in this activity they will use their sense of touch to try to find out what is in the socks/bags. Remind students that they are NOT to look in the bags.
- Discuss what items the students thought were in the bags and show them what it really was.
- Explain: "We can feel different sensations on our skin. We can sense touch, pressure and temperature. We have skin all over our body. Our hands are very sensitive to touch." Make a list of the way things feel using our hands, e.g. hot, cold, rough, smooth.

- Ask: If you were not able to see with your eyes, would your sense of touch be helpful, and why?
- Do you think it's possible to drop a marble (or a coin) into a paper cup without looking? Try it. Put an item in a paper cup without looking. How were you able to do this?
- Compare your sense of touch with your other senses. Which do you think is the most important and helpful to you? Why? Equally helpful?
- Do you think we could do as well without one or more of our senses? Talk about it and try different tests. Some people are not able to see, or hear, or smell, and scientists have found that those people are able to develop another sense very strongly, to help them understand our world.
- Make a Braille alphabet with dots of dried glue. Explain what it is used for, and have the children feel the letters with eyes open and eyes closed.
- Have an outdoor treasure hunt. Ask the children to find something rough, something smooth, something prickly and something wet. Make up your own criteria according to your environment.
- Have the children make their own tactile board. Make available a piece of heavy paper or card, and a variety of items with strong sensory qualities. E.g. sponge, foil, sandpaper, bark chips, coin etc. Have the children glue some items to the board, and then when dry, close eyes and guess what the texture is by feeling it with hands
- Compare sensations by placing an item on an arm, or cheek, or foot. Do you think the sensation is stronger by touching with your hand, or with your cheek etc.?
- Do the same thing but have the child close eyes and answer.
- Child closes eyes. You touch a child on arm with finger. Have the child try to touch the exact spot where you touched.

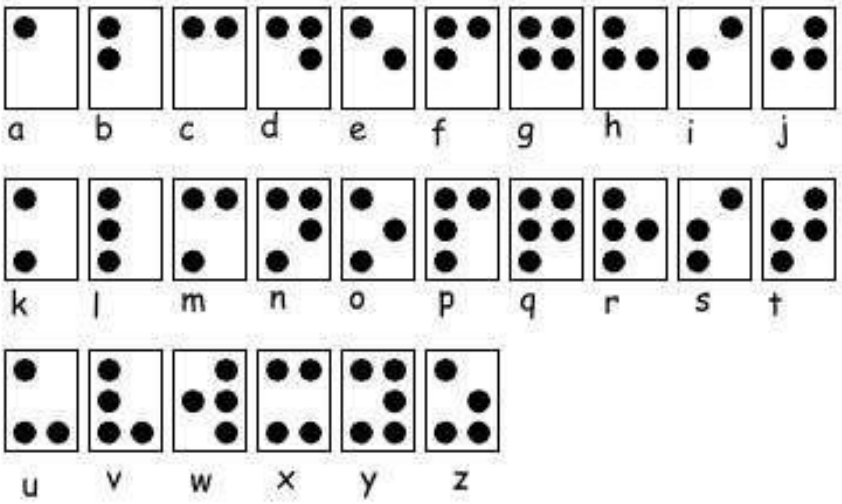
Key question about touch
What would it be like if we did not have the sense of touch?

Activities for Sound
- Identify sounds in the immediate environment.
- Identify sounds in the home.
- Go for a walk and identify sounds.
- Classify sounds - loud, soft, harsh, musical, banging, tapping, whirring, clattering, buzzing, vibrating
- Make sounds using body parts.
- Make musical instruments from rubber bands (plucked), balloons (escaping air), rulers & containers (drum), jars filled with different levels of water (strike with pen), combs and tissue paper (blow), cardboard cylinders (blow).
- Classify instruments of the orchestra according to the way they make sounds, i.e. pluck, blow, bow etc.
- Listen to sounds of varying frequencies, (high/low), and measure the distance from which they may be heard.
- Experiment to see whether sound can travel through certain materials.
- Make 'telephones' from tin cans and string.
- explain the nature and properties of sound waves

- explain how sound waves are made
- Draw a diagram of the ear and the passage of sound waves.
- Read the biography of Helen Keller (Supplied in this folder)
- Find out how the hearing impaired can be assisted by scientific innovations, e.g. hearing aids

Key Questions about sound
What is a good listener?
How do we hear?
What kinds of sounds do we hear?
How does hearing help to keep us safe?
What special help is available for people who cannot hear?

Braille Alphabet



Year 3 Values education
God is Creator
Thankfulness for who I am
For my life, my family and that I have life.
Thankfulness to God for creating me as I am.
God loves me just the way I am. He created me in a very special way. I am special to Him.

Thankfulness for who I am…

- knowing that I am special to God
- feeling sure that I am a very valuable person
- feeling good about my strengths, but not boasting about them
- knowing that I am not good at some things, and accepting it
- feeling happy about the way I am
- knowing that God loves me just the way I am
- being thankful to God for the way He created me

Activities

1. Design your own personal shield that shows the things you are good at. Draw symbols for things like music, cooking, drawing, or whatever you are good at.

2. Did you know that no one has the same fingerprint as you? You are special. Here's an art activity. Make some stamped fingerprint designs. Make the finger prints (or thumb prints or hand prints into animals. Use a pen to add legs, beak, tail or whatever you need to make your animal.

Practical Science 1: Sense of Touch

Describe how things feel

Make a collection of things that feel different when we touch them:
Examples:

Sticks
Stones
Cloth
Ice
Cotton wool
Plastic
Metal
Sandpaper

Find words to describe each of these.
Make a classification table.
Make this into a bar graph.

hair	pineapple					
face	sandpaper	mango		metal	silk	finger paint
cotton	stick	stone	face	Ice	plastic	Jelly
Soft	**rough**	**smooth**	**warm**	**cold**	**slippery**	**slimy**

Mystery surfaces

Make your own touch surfaces by coating pieces of cardboard with glue.
Then spread on things to give a texture, such as popcorn, sugar, flour, seeds, sand.
Put each card in a paper bag.
Take turns to pull a card out of a bag, eyes closed.

Mystery fabrics

Make cards as for “Mystery surfaces”.
Glue on to the cards different types of fabrics such as silk, tee-shirt material, scratch bag material, wool, fur

Practical Science 2: Sense of Touch

Warm or cold?

You will need:
Three jars of water: one icy cold; one at room temperature and one warm

What to do:
Dip one finger into the cold jar and one finger on the other hand into the warm jar for a minute.
Slowly, your brain will grow used to the two different temperatures.
Now move both fingers into the jar at room temperature and notice how it feels.
Although you know both fingers are in cool water, your brain doesn't agree.

Why is this so?
There are millions of nerve endings in your skin which are sensitive to heat, cold, pain, light and heavy pressure. Certain parts of your body, like your hands, are crowded with nerve endings and much more sensitive than other parts. The nerve endings send messages to your brain. If one message is received by the brain for long enough, your brain gets used to it and doesn't immediately recognize any changes.

Practical Science 3: Sound

Make a drum

What you will need:
A balloon
Scissors
A strong elastic band
A can with both ends removed

What to do:
Blow up the balloon and leave it for at least 2 hours so that it can stretch.
Carefully cut the end off the balloon. Try not to burst it. Let the air out slowly.
Cut a large circle out of the balloon with scissors,
Stretch the circle over the tin can and secure it with an elastic band.

The balloon is like a skin on a drum. It vibrates as you hit it with your fingers. This makes the sound.

1. What other materials are used to make different types of drums?
2. Why does the skin need to be stretched?
3. The vibrations are travelling through the _____ to our ears.

Make a shaker

What you need:
Paper cups
Plastic bottles with lids
Rice, lentils, dried beans or peas, sand or pebbles

What to do:
To make a paper-cup shaker, put a handful of rice or lentils into one cup. Turn another cup upside down and tape the two cups together rim to rim.

To make plastic bottle shakers, pour a handful of dried peas or beans into the bottle and put the lid on tight.

Try making shakers with different sized bottles. You will find that the larger bottles which hold more make deeper sounds.

Experiment with the different fillings. You will find that paper cup shakers with lentils or rice make a softer sound than the plastic bottles with dried beans or peas.

1. Which shaker made the louder sound?
2. Which shaker made the lower sound?

Practical Science 4: Sound

Make a bottle flute

http://www.kidspot.com.au/kids-activities-and-games/Science-experiments+10/Bottle-Flute+11060.htm?

Making music does not have to be a terribly noisy experience. Making music with these glass bottles can actually be quite pleasant. Give it a go and see if you can make a tune to impress.

What you need:

- 2 (or more) glass bottles
- water

What to do:
Fill the glass bottles with different amounts of water, without filling any to the top.

Blow gently across the top of the bottle so that you can hear a note.

Now blow gently across all of the bottles. They should all make different notes. Why? Because blowing air inside the bottle makes the water vibrate, creating the note.

Use a Balloon to Amplify Sound

http://www.sciencekids.co.nz/experiments/balloonspeakers.html

Small sounds can still make a big noise when you use a good sound conductor. Experiment with a balloon, compressed air and your own ears to find out how it works and the science behind it.

What you'll need:
A balloon

Instructions:

1. Blow up the balloon.
2. Hold the balloon close to your ear while you tap lightly on the other side.

What's happening?
Despite you only tapping lightly on the balloon your ears can hear the noise loudly. When you blew up the balloon you forced the air molecules inside the balloon closer to each other. Because the air molecules inside the balloon are closer together, they become a better conductor of sound waves than the ordinary air around you.

Practical Science 5: Sound

Make Music with Water : Water chimes

http://www.sciencekids.co.nz/experiments/makemusic.html

Have you ever tried making music with glasses or bottles filled with water? I bet you favourite band hasn't. Experiment with your own special sounds by turning glasses of water into instruments, make some cool music and find out how it works.

What you'll need:

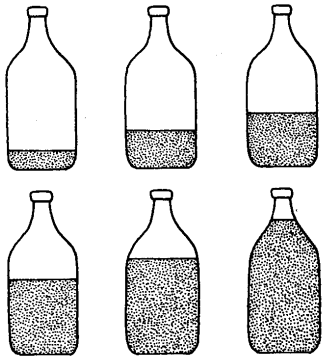
- 5 or more drinking glasses or glass bottles
- Water
- Wooden stick such as a pencil

Instructions:

1. Line the glasses up next to each other and fill them with different amounts of water. The first should have just a little water while the last should almost full, the ones in between should have slightly more than the last.
2. Hit the glass with the least amount of water and observe the sound, then hit the glass with the most water, which makes the higher sound?
3. Hit the other glasses and see what noise they make, see if you can get a tune going by hitting the glasses in a certain order.

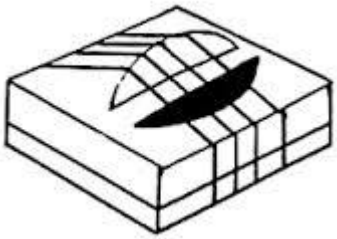
What's happening?

Each of the glasses will have a different tone when hit with the pencil, the glass with the most water will have the lowest tone while the glass with the least water will have the highest. Small vibrations are made when you hit the glass, this creates sound waves which travel through the water. More water means slower vibrations and a deeper tone.



Practical Science 6: Sound

Make a guitar and a xylophone



Guitar:
What you need:
A small carboard box
Rubber bands

What to do:

- Cut the front out of the box.
- Stretch the rubber bands across the open part of the box.
- Watch the rubber bands vibrating to make the sound.

The rubber bands vibrate the air and travel to our ears.

Xylophone:

What you will need:
5 glasses
A jug of water

What to do:

- Fill 5 glasses with different amount of water.
- The first has only a little, the next has a bit more, the next one has a bit more and the last one is full.
- Use a metal spoon to hit the glasses.

1. Which glass makes the highest sounds?
2. Which makes the lowest?
3. What is vibrating this time?

Make some pan pipes

What you need:
8 straws
Tape

What to do:
Cut the straws into different lengths.
Place them in order of shortest to longest and tape the together at one end.

To play your pan pipes, blow gently across the top of each pipe. You will find that the longer pipes make a lower sound than the shorter pipes.

1. Which musical instruments are played by blowing?
2. What is vibrating?

Practical Science 7: Sound

Make some telephones

What you need:
2 clean, empty cans
A nail
A hammer
A piece of string about 6 metres long

What to do:

- Ask an adult to help you make a hole in the bottom of each can using a hammer and nail.
- Push one end of the string through the hole through the open end of the can to the outside.
- Tie a very big knot (or several knots) to stop the string slipping through.
- Take the other end of the string and thread if through the other can. Tie a knot in the end.
- Give one can to a friend. Walk apart from each other until the string is pulled tight. The string must be very straight and must not touch anything.
- Take turns in talking to each other. One person listens by holding the can to the ear and the other person speaks softly into his/her can.

1. What is vibrating?
2. The sound is of your voice is traveling along the _____

Art Year 3

God is Creator

Topic: The senses: touch and hearing

Biblical connection: God created us with senses to enjoy His beautiful creation, and to communicate with others.
Bible art as a wall display 1: The woman who touched the hem of Jesus' clothing

Bible verse: Luke 8:45: "Who touched me?" Jesus asked.

Bible art wall display 2: Jesus speaking to a crowd of people saying, "He who has ears, let him hear." (Mark 4:9) Show Jesus speaking this verse in a speech bubble.

1. **Painting and collage (Touch)**

Teach the meaning of the word texture and look for textures in the environment.
a) Students create art work with different 'feeling' textures: smooth, rough, bumpy
b) Student create art work that LOOKS as if it has texture, but is actually smooth to touch, e.g. the surface of the moon; a rocky beach

2. **Modelling (touch)**

- Making a textured surface using sticks, forks and toothbrushes on the clay.

3. **Drawing animals and the sounds they make (Hearing)**

Students can draw different birds and animals and use speech bubbles to describe the sounds they make, e.g. birds tweet, frogs croak; bees buzz

4. **Drawing of painting to music**

5. **Threads and textiles**

Explore the textures of threads and textiles. Create a woven mat using threads or fibres of different textures. Grasses can be included.

Thinking Skills Creator Yr 3

Five senses 1 The answer is: **our senses.** Give 5 questions.	**Five senses 2** Name 5 things that you could NEVER see.
Five senses 3 Make something that will help blind people.	**Five senses 4** Draw 5 things astronauts would see if they travelled around the moon.
Five senses 5 Find 10 different uses for a chair	**Five senses 6** Draw a set of head phones. Now redesign it using **B** – make one part **bigger** **A** – **add** something extra **R** – **replace** one part with something else