



|       |                 |       |          |            |   |
|-------|-----------------|-------|----------|------------|---|
| Topic | Science - Sound | Theme | Creation | Year Group | 4 |
|-------|-----------------|-------|----------|------------|---|

|              |   |  |  |  |  |
|--------------|---|--|--|--|--|
| Key Question | How do we hear and how are sounds made? |  |  |  |  |
|--------------|---|--|--|--|--|

### What should I already know?

- Hearing is one of my five senses.
- Sounds can be combined using musical instruments.
- What the word vibration means.

### Key learning

#### Pitch:

High pitched sounds are created by short sound waves.

Low pitched sounds are created by long sound waves.



#### Volume:

The closer you are to the **source** of the sound, the louder the sound will be.



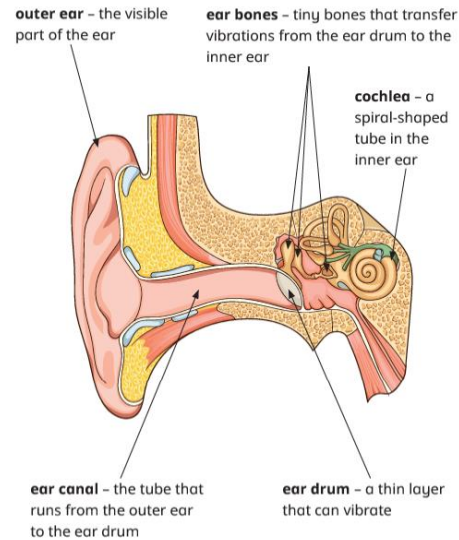
The further away you are from the **source** of the sound, the **quieter** the sound will be.

### key vocabulary

|             |  |
|-------------|--|
| amplitude   | a measure of the strength of a <b>sound wave</b>   |
| decibel     | a measure of how loud a sound is   |
| frequency   | a measure of how many times per second the <b>sound wave</b> cycles                      |
| sound waves | invisible waves that travel through air, water and solid objects as <b>vibrations</b>    |
| medium      | something that makes possible the transfer of <b>energy</b> from one location to another |
| vibration   | a quick back-and-forth movement  |
| pitch       | how high or low a sound is   |
| volume      | how loud or quiet a sound is   |
| insulate    | to protect something from the transfer of heat, sound or electricity                     |

### What I will know by the end of the unit?

|                          |  |
|--------------------------|--|
| What is a sound?         | Something that can be heard. The object that makes the sound is called the <b>source</b> .   |
| How is a sound made?     | When objects <b>vibrate</b> , a sound is made. The <b>vibration</b> makes the air around the object <b>vibrate</b> , and the air <b>vibrations</b> enter your ear. These are called <b>sound waves</b> . If an object is making a sound, a part of it is <b>vibrating</b> , even if you cannot see the <b>vibrations</b> . |
| How do sounds travel?    | <b>Sound waves</b> travel through a <b>medium</b> (such as air, water, glass, stone, and brick). For example, if somebody is playing music in the room next door, the sound can travel through the bricks in the wall.   |
| How do we hear sounds?   | When an object <b>vibrates</b> , the air around it <b>vibrates</b> too. This <b>vibrating</b> air can also be known as <b>sound waves</b> . The <b>sound waves</b> travel to the ear and make the <b>eardrums vibrate</b> . Messages are sent to the brain which recognizes the <b>vibrations</b> as sounds.               |
| How do we measure sound? | <b>Amplitude</b> measures how strong a <b>sound wave</b> is. <b>Decibels</b> measure how <b>loud</b> a sound is. <b>Frequency</b> measures the number of times per second that the <b>sound wave</b> cycles.   |



**decibel (dB)** - the measurement of the loudness of a sound



**decibel meter** - a piece of equipment used to measure the loudness of sound





|              |  |       |          |            |   |
|--------------|--|-------|----------|------------|---|
| Topic        | RE   | Theme | Creation | Year Group | 4 |
| Key Question | For Christians, when Jesus left, what was the impact of Pentecost? |       |          |            |   |

| What should I already know?   | Key Knowledge   |
|---|---|
| <ul style="list-style-type: none"> <li>I have explored beliefs surrounding Jesus' death and resurrection.</li> <li>I have explored the concept of God as the trinity of the Father, Son and the Holy Spirit.</li> </ul>   | <ul style="list-style-type: none"> <li>For the following 40 days after Easter Sunday, Jesus kept appearing to his disciples.</li> <li>The 40<sup>th</sup> day was the last time he did this before he was taken up to Heaven. Christians call this the 'Ascension'.</li> <li>After the Ascension, Jesus' disciples were in a room when they heard wind.</li> <li>Tongues of fire appeared on their heads, and they could speak in different languages.</li> <li>They spread Jesus' word.</li> <li>Christians believe Jesus is still alive, and rules in their hearts and lives by the Holy Spirit, if they let him.</li> <li>Christians believe that after Jesus returned to be with God the Father, he sent the Holy Spirit at Pentecost to help the Church make Jesus' invisible kingdom visible by living lives that reflect the love of God.</li> <li>Christians celebrate Pentecost as the beginning of the church.</li> </ul> |
| What I will know by the end of the unit.  |   |
| <ul style="list-style-type: none"> <li>I will understand the Day of Pentecost.</li> <li>I will be able to make clear links between the Day of Pentecost and Christian belief about the Kingdom of God on Earth.</li> <li>I will be able to give examples of what Pentecost means to some Christians now.</li> <li>I will make links between Pentecost, the Kingdom of God and how Christians live their lives in their church communities.</li> <li>I will understand what Christians think the Holy Spirit is and why it is important.</li> <li>I will be able to offer suggestions about what the description of Pentecost might mean.</li> </ul> |   |

**Christians represent the Holy Spirit using different symbols:**



Dove



Fire



Wind



Water



Cloud



Oil

**Key Vocabulary**

|              |  |
|--------------|--|
| Christian    | A person who believes in Christ and his teachings  |
| Jesus        | God's son, who Christians believe came and lived on Earth                                  |
| God          | The creator and ruler of the universe and source of all moral authority; the supreme being |
| Holy Spirit  | The third person of the Trinity - this is God active in the world                          |
| Resurrection | The time when Jesus rose from the dead   |
| Disciples    | These are 12 friends of Jesus who helped him spread the word of God.                       |
| Bible        | The Christian Holy Book which consists of the old and new testaments                       |
| Pentecost    | A Christian festival that marks the coming of the Holy Spirit                              |
| Trinity      | The union of God the Father, God the Son and God the Holy Spirit in one God.               |





|              |                  |              |          |                   |   |
|--------------|------------------|--------------|----------|-------------------|---|
| <b>Topic</b> | Computing - Logo | <b>Theme</b> | Creation | <b>Year Group</b> | 4 |
|--------------|------------------|--------------|----------|-------------------|---|

### Key Learning

- To learn the structure of the coding language of Logo.
- To input simple instructions in Logo.
- Using 2Logo to create letter shapes.
- To use the Repeat function in Logo to create shapes.
- To use and build procedures in Logo.

### Key Questions

#### What is Logo?

Logo is a text-based coding language used to control an on-screen turtle to create mathematical patterns.

### Key Resources



2Logo

### Key Vocabulary

#### Grid

The template around which the 2Logo turtle moves.

#### Multi Line Mode

Type several lines of commands in the text area.

#### Prediction

When you say what is going to happen when you run the instructions.

#### LOGO

A text-based coding language used to control an on screen turtle to create mathematical patterns.

#### Pen Down

Lowers the screen pen so the 2Logo turtle draws a line on the screen.

#### Procedure

Pieces of Logo text with a procedure name that can be run by calling them by name. Saves time if you want to print to screen lots of the same shape.

#### Debugging

The process of identifying and removing errors from computer hardware or software.

#### LOGO Commands (e.g FD, BK, RT, LT)

A list of commands inputted into 2Logo to move the turtle around the screen.

#### Pen Up

Raises the screen pen so the 2Logo turtle doesn't draw on screen.

#### Repeat

A set of instructions that is run a specified number of times.

#### Run Speed

The speed at which the 2Logo turtle moves around the screen.

#### SETPC

Set pen colour to a given colour.

#### SETPS

Set the thickness of the pen's line.

### Key Images



Open, close and share work



Choose the turtle style



Choose a background



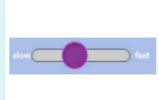
Switch the grid on and off



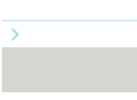
Press and the logo mouse follows the instructions



Reset the mouse to the start position



Change the speed at which the mouse moves



Write the Logo instructions here

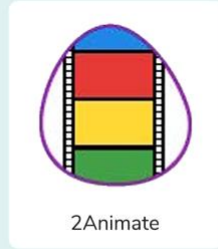


|              |                              |              |                 |                   |          |
|--------------|------------------------------|--------------|-----------------|-------------------|----------|
| <b>Topic</b> | <b>Computing - Animation</b> | <b>Theme</b> | <b>Creation</b> | <b>Year Group</b> | <b>4</b> |
|--------------|------------------------------|--------------|-----------------|-------------------|----------|

### Key Learning

- To discuss what makes a good animated film or cartoon.
- To learn how animations are created by hand.
- To find out how animation can be created in a similar way using the computer.
- To learn about onion skinning in animation.
- To add backgrounds and sounds to animations.
- To be introduced to 'stop motion' animation.
- To share animation on the class display board and by blogging.

### Key Resources



2Animate

### Key Images



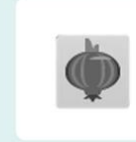
Open, close or share animation.



Add or delete a frame from the animation.



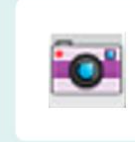
Play the animation.



Switch onion skinning on or off.



Add a background picture to the animation.



Insert a photograph from a webcam into the animation.



Insert a sound file into the animation.



Number of frames in the animation.

### Key Vocabulary

#### Animation

The process of adding movement to still objects.

#### FPS (Frames Per Second)

The number of frames played per second.

#### Frame

A single image in an animation.

#### Onion Skinning

A process where the shadow image of the previous frame is present to help you line up the objects of the animation correctly.

#### Pause

To temporarily stop the animation.

#### Stop motion

A technique whereby the camera is repeatedly stopped and started, for example to give animated figures the impression of movement.

### Key Questions

#### What is an animation?

Animation is the process of giving the illusion of movement to drawings, models, or inanimate objects. Animated motion pictures and television shows are highly popular forms of entertainment.

#### What is meant by onion skinning?

Onion skinning is a 2D computer graphics term for a technique used in creating animated cartoons and editing movies to see several frames at once.

#### What is meant by stop motion animation?

Stop motion animation is a filming technique in which objects (such as clay models) are photographed in a series of slightly different positions so that the objects seem to move.



# La clase

phonics

ca

sound in:

• calculadora 

• sacapuntas 

sound in:

cu

• culculadora 

• cuaderno 

accents

Accents indicate the vowel is stressed. As seen in the word lá-piz. They can also be used to indicate a question as seen in:

'¿Qué tienes en tu estuche?'

The nouns & determiners for 12 common classroom objects.




The 2 words for the possessive adjective 'my' in Spanish:


mi

mis

Language to describe what I have/do have not in my pencil case.

En mi estuche tengo un bolígrafo. 

*In my pencil case I have a pen.*

En mi estuche ~~no~~ tengo un bolígrafo. 

*In my pencil case I do not have a pen.*

vocabulary

To fully understand when to use the correct possessive adjective in Spanish.

mi lápiz 


mi regla 

*Singular possessive adjective 'my' for both masculine and feminine nouns.*


mis tijeras 

*Plural possessive adjective 'my' for both masculine and feminine nouns.*

The negative structure 'no tengo'.

Tengo una goma. 

*I have a rubber.*

~~No~~ tengo una goma. 

*I do not have a rubber.*

grammar

## What I will learn:

- Objective 1: I will learn the nouns and determiners for 6 classroom objects in Spanish.
- Objective 2: I will learn 6 more nouns and their determiners for classroom objects in Spanish .
- Objective 3: I will learn to answer the question '¿Qué tienes en tu estuche?' (What do have in your pencil case?)
- Objective 4: I will learn how to move from an indefinite determiner (a) to a possessive adjective (my) in Spanish.
- Objective 5: I will learn the negative response and use all my new knowledge to say what I have/do not have in my pencil case.



### Digital world: Mindful moment timer

|                     |   |
|---------------------|---|
| <b>advantage</b>    | Something good about a product that helps the user.         |
| <b>aesthetic</b>    | How something looks.  |
| <b>brand</b>        | A particular company's products and logo.                   |
| <b>disadvantage</b> | Something about a product that makes things more difficult. |
| <b>ergonomic</b>    | How comfortable a product or piece of equipment is to use.  |
| <b>exhibition</b>   | An event where things are shown to the public.              |
| <b>loop</b>         | A series of instructions that is repeated.                  |
| <b>prototype</b>    | A first example of something.                               |
| <b>research</b>     | A detailed study of something to get more information.      |
| <b>variable</b>     | A word that stands for a set of values or numbers.          |

### Product forms

Many products that have similar functions take different forms.



on-screen timer



sand timer



egg timer

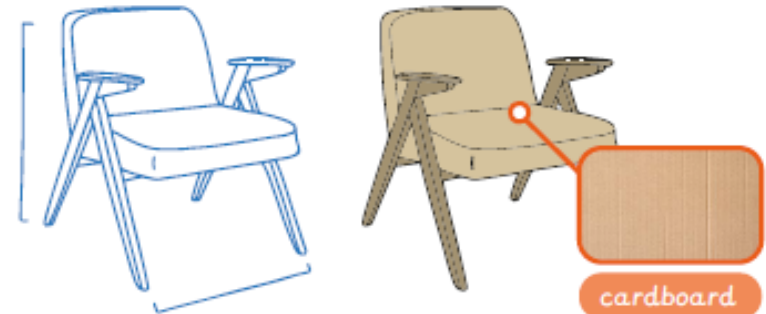


wind-up timer

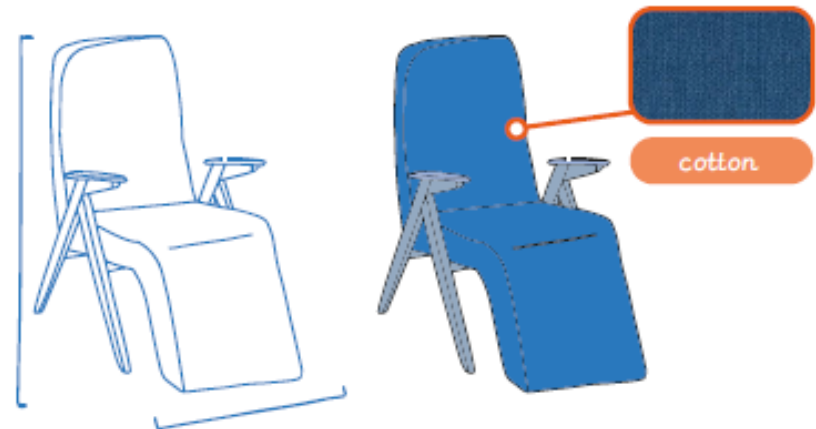
### Prototypes



Prototypes are the first examples of a product made with cheap, easy-to-find materials. They let you test the form and function of an idea and help gather feedback about ergonomics and aesthetics.



They help you make better decisions about size, shape and materials for the next version or the final design.





|       |   |       |          |            |   |
|-------|---|-------|----------|------------|---|
| Topic | Music - Samba and Carnival sounds and Instruments | Theme | Creation | Year Group | 4 |
|-------|---|-------|----------|------------|---|

### Musical style: Samba



Samba is a Brazilian music style which forms a part of everyday life in Brazil. It is used for celebrations, including the Rio Carnival, and even in football! It is a style of music which layers syncopated rhythms on multiple percussion instruments.

### Instruments

Untuned percussion

Percussion instruments you **cannot** play a tune on.

Agogo



Calxa



Chocahlo



Ganza



Repique



Surdo



Tamborim



### Vocabulary

- Rhythm** A pattern of long and short sounds (and silences) within a piece of music.
- Syncopation** A type of musical rhythm in which the strong notes are not on the beat.
- Off-beat** The beats in between the ones you would naturally clap on.
- Break** A four or eight beat rhythm which is usually played once or twice.

