

Teacher's card



SCIENCE STORYTELLERS

Learning objectives

Creativity & Imagination

Scientific literacy

Performing arts

Speaking & Listening

Modalities of the activity

7- 12 years old

In the classroom

Group work

Materials needed

- A timer
- A notebook



Printable resources attached

- Playing cards
- Famous scientists cards
- Identity cards



Acts

Act 1: Scientific improvisation

Act 2: It's not magic, it's science!

Act 3: Who's Who - Famous scientists

Difficulty and targeted school level

Medium

Primary

Low Secondary





Summary of the activity

“Science Storytellers” is designed to offer students a fun and creative way to discover and learn about science. It aims to stimulate students' scientific curiosity and enhance their understanding of scientific concepts through drama. The main aim of this activity is to encourage students to use their creativity and scientific knowledge to improvise on short stories, thus reinvesting the scientific concepts they have learned in class. In groups of two or three students, they will draw four different cards, each representing a different element. The first card determines the scientific concept, the second card provides a set element they must incorporate into their improvisation, the third card assigns them a character to include in their story, and the fourth card gives them instructions on how to improvise.

By engaging in this activity, students not only develop their improvisation skills but also learn to collaborate and exchange ideas with their classmates. The activity encourages mutual aid and cooperation within the groups, fostering a sense of teamwork. Furthermore, it helps students develop their public speaking skills, as they must be able to express themselves clearly and convincingly in front of an audience, in this case, their classmates. In addition, it encourages students to apply the knowledge they have acquired in class and use it in a creative and fun way. By improvising on scientific concepts, they are actively engaging with the material and deepening their understanding of it. This hands-on approach to learning helps students retain information and make connections between different scientific concepts. In addition to the educational benefits, this activity also serves as a class ritual. Having a group of students perform at the beginning of each lesson sets a positive and engaging tone for the class, creating excitement and anticipation for the upcoming lesson.

Sequencing the activity



ACT 1: SCIENTIFIC
IMPROVISATION



ACT 2: IT'S NOT
MAGIC, IT'S SCIENCE!



ACT 3: WHO'S WHO -
FAMOUS SCIENTISTS



Summary of the activity - Act 1: Scientific improvisation

The aim of this first act is to encourage students to use their creativity and scientific knowledge to improvise on short stories in order to reinvest a science concept learned in class.

In groups of 2 or 3 students, they draw 4 different cards from the 4 decks provided. The first deals with the scientific concept on which they're going to improvise; the second gives them a set element to use in their improvisation; the third gives them a character to include in their story; finally, the last card gives them instructions on how to improvise.

Give them a few minutes to come up with ideas for their interpretation. Be careful, the students in the class must guess each of the cards drawn by the members of the group. Use this activity as a class ritual! You can have a group of students perform at the beginning of each lesson to assess their memories of previous lessons, for example.



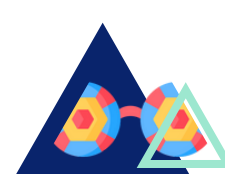
Improvisation and acting



Duration of the Act :
10 minutes



All the STEAM spectrum



Communication and self-expression

Phases of activity

1

Depending on the number of pupils in your class, form groups of 2 or 3.

2

Arrange the 4 decks on your desk as follows: 1 - 2 - 3 - 4. The group must draw 1 card from each deck. The first pupil draws a card from the first deck at random, then the second pupil draws another card from the second one and so on. The class must not know which cards have been drawn, as the aim is to get them to guess.

3

Give the groups 5 minutes to discuss and agree on the improvisation they are going to perform in front of the class.

4

Time the improvisation up to 2 to 4 minutes. Take notes as they go along. Exchange with the whole class on the group's improvisation: let them guess the different elements of the play and discuss the modifications they would have made regarding the topic. Collect the group's cards and remove them from the pack for the next time.



Learning objectives

This activity has several teaching objectives. The first is to convey knowledge about a concept covered in class. The aim of the activity is to get pupils to present scientific knowledge from the school curriculum in a fun and creative way, using improvisation as a means of expression. The work is carried out in groups of 2 or 3 students, enabling them to learn to collaborate and exchange ideas and to listen to their classmates. The aim here is to encourage mutual aid and cooperation within the groups. The activity enables students to develop their public speaking skills, to be able to express themselves clearly and convincingly in front of an audience (in this case their classmates). The aim of this activity is to encourage students to be more confident in their communication. Finally, the improvisation exercise allows them to use their creativity and imagination to find solutions to the problems posed. In this way, they learn to think differently and to think outside the box by looking for original ideas. Finally, getting students to improvise on a scientific concept encourages them to apply the knowledge they have acquired in class and to use it in a creative and fun way.

Theatrical objectives

This activity involves a number of theatrical objectives relating to the development of improvisation. This technique aims to develop students' ability to improvise, i.e. to create spontaneous scenes and dialogues using their imagination and creativity on the spot with very little preparation. At the same time, it introduces students to the art of drama and teaches them the basics by using theatrical techniques to create characters if they wish, as well as situations and dialogue. The other aim of this activity is to develop communication skills, including non-verbal communication. By improvising scenes, the students also learn to use their bodies and body language to communicate emotions and ideas, thus reinforcing their non-verbal communication. Another aim is to develop self-confidence, as this activity encourages students to step out of their comfort zone by improvising in front of their classmates. This helps them to develop their self-confidence and overcome any shyness or apprehension they may have about public speaking, while having fun at the same time.

Skills developed

- Being able to express yourself in front of an audience
- Collaboration
- Creativity
- Self-confidence
- Ability to summarise
- Scientific understanding
- Putting into practice a concept learned in class



Scientific & Researchers: research and presentations

To go further, you can carry out this sub-activity with the whole class by forming groups of 2 or 3 pupils. Scientific research is an excellent activity for encouraging students to develop their critical thinking and curiosity. To set up this sub-activity, you can start by asking the pupils to think about a scientific subject that interests them and that can be studied in class about the curriculum. The aim is to get them to learn how to search for information, retrieve and organise it and be able to explain the results of their research. To present their work, they will have to give an oral presentation on their subject in front of their classmates. To do this, they can draw up clear, concise posters, illustrated with photos or drawings they have made. These posters can then be displayed in your classroom or the school corridors.

By working in groups, students learn to collaborate, share ideas and develop their ability to work as a team. Sharing knowledge within the classroom will enable all pupils to learn and exchange ideas on a wide range of scientific subjects. By encouraging pupils to carry out scientific research, you will develop their curiosity about science and give them the skills they need to become future scientists and researchers.

Scientific observation logbook

The science observation logbook is a fun and educational individual sub-activity that encourages students to observe the world around them and record their observations in a personal logbook. It can help students develop their observation skills, improve their written communication, understand basic science concepts and encourage their scientific curiosity. To kick off this activity, you could ask the students to choose an object, animal or natural phenomenon that they would like to observe over a certain period (such as a week or a month). For example, the germination of seeds in cotton wool, the gradual evolution of tadpoles, etc. The aim is for them to fill in their logbooks with their scientific observations, using drawings, sketches, notes and photos. You can encourage the pupils to ask questions about what they observe, to look for additional information on their subject and to exchange ideas with their classmates. To make this activity more interactive and fun, you can organise class-sharing sessions where students present their observations and hold discussions about their scientific discoveries and observations. You could also encourage pupils to display their logbooks at the end of the activity in the classroom or in the school library to share their work with the whole school.

To take the activity even further, you could show the pupils extracts from Leonardo da Vinci's notebooks of his thoughts, sketches and drawings.... Focus on this famous scientist and enrich their general knowledge.



Deck 1 - Scientific Concepts

Theme: Living organisms,
diversity and functions

Classification of the living organisms



Deck 1 - Scientific Concepts

Theme: Living organisms,
diversity and functions

Characteristics of living organisms



Deck 1 - Scientific Concepts

Theme: Living organisms,
diversity and functions

Nutrition of the living organisms



Deck 1 - Scientific Concepts

Theme: Living organisms,
diversity and functions

Interactions between living organisms



Deck 1 - Scientific Concepts

Theme: Living organisms,
diversity and functions

The environments of living organisms



Deck 1 - Scientific Concepts

Theme: The matter

The states of matter



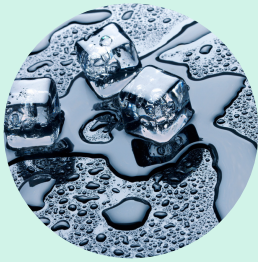
Deck 1 - Scientific Concepts



Deck 1 - Scientific Concepts

Theme: The matter

The changes of state



Deck 1 - Scientific Concepts

Theme: The matter

Homogeneous and heterogeneous mixtures



Deck 1 - Scientific Concepts

Theme: The matter

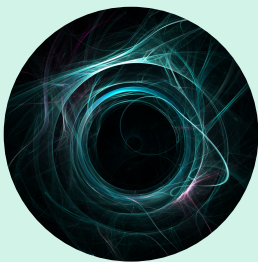
Materials processing



Deck 1 - Scientific Concepts

Theme: Energy, its forms, its transformation

The different forms of energy



Deck 1 - Scientific Concepts

Theme: Energy, its forms, its transformation

The energy sources



Deck 1 - Scientific Concepts

Theme: Energy, its forms, its transformation

Energy conversions



Deck 1 - Scientific Concepts



Deck 1 - Scientific Concepts

Theme: Energy, its forms, its transformation

Energy savings



Deck 1 - Scientific Concepts

Theme: Energy, its forms, its transformation

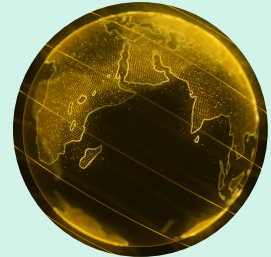
Environmental impact



Deck 1 - Scientific Concepts

Theme: Heaven and Earth

Earth's rotational movement



Deck 1 - Scientific Concepts

Theme: Heaven and Earth

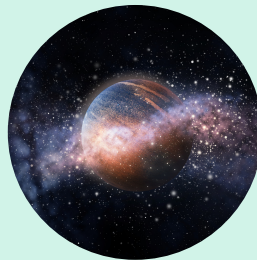
Seasons and climates



Deck 1 - Scientific Concepts

Theme: Heaven and Earth

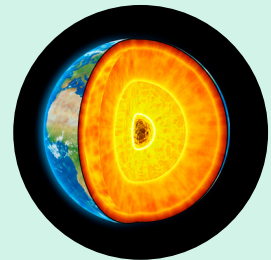
Components of the sky (stars, planets)



Deck 1 - Scientific Concepts

Theme: Heaven and Earth

Components of the earth



Deck 1 - Scientific Concepts



Deck 1 - Scientific Concepts

Theme: Heaven and Earth


The different types of landscapes



Deck 1 - Scientific Concepts

Theme: Heaven and Earth


Natural phenomena



Deck 1 - Scientific Concepts


Deck 2 - Scenery and settings

Jungle




Deck 2 - Scenery and settings

Forest



Deck 2 - Scenery and settings

Garden



Deck 2 - Scenery and settings



Deck 2 - Scenery and settings

Desert



Deck 2 - Scenery and settings

Under the sea



Deck 2 - Scenery and settings

Beach



Deck 2 - Scenery and settings

On a planet



Deck 2 - Scenery and settings

In the sky



Deck 2 - Scenery and settings

Space



Deck 2 - Scenery and settings



Deck 2 - Scenery and settings

Imaginary Country



Deck 2 - Scenery and settings

Science Lab



Deck 2 - Scenery and settings

City



Deck 2 - Scenery and settings

Countryside



Deck 2 - Scenery and settings

Mysterious Cave



Deck 2 - Scenery and settings

Zoo



Deck 2 - Scenery and settings



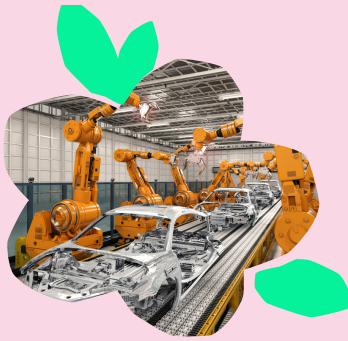
Deck 2 - Scenery and settings

Mountains



Deck 2 - Scenery and settings

Robot Factory



Deck 2 - Scenery and settings

Solar Panels Field



Deck 2 - Scenery and settings

Wind Farm

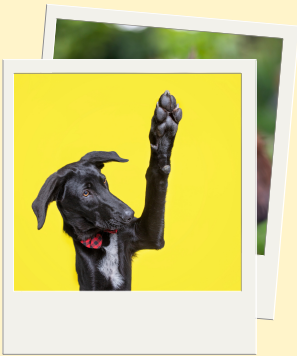


Deck 2 - Scenery and settings



Deck 3 - Characters

A dog



Deck 3 - Characters

A cat



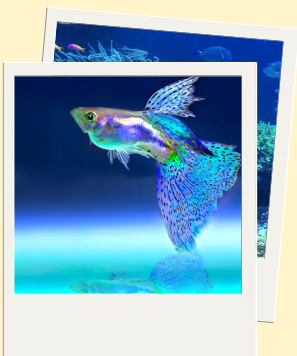
Deck 3 - Characters

An ant



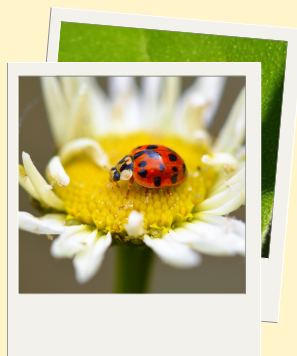
Deck 3 - Characters

A fish



Deck 3 - Characters

A ladybird



Deck 3 - Characters

A snake



Deck 3 - Characters



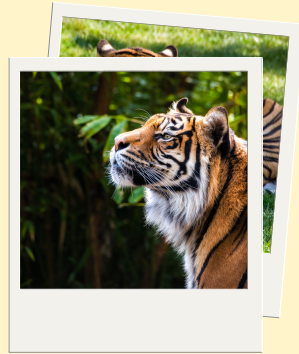
Deck 3 - Characters

A crocodile



Deck 3 - Characters

A tiger



Deck 3 - Characters

A plant



Deck 3 - Characters

A mushroom



Deck 3 - Characters

A tree



Deck 3 - Characters

A whale



Deck 3 - Characters



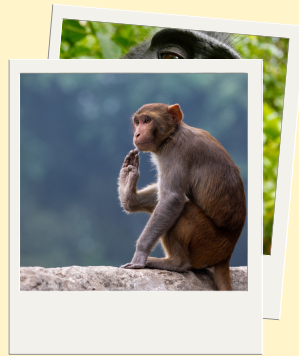
Deck 3 - Characters

A bee



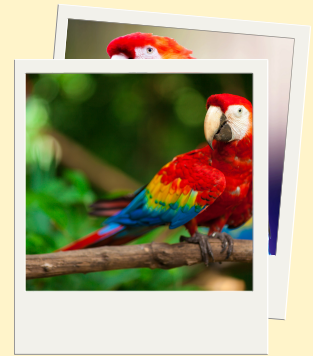
Deck 3 - Characters

A monkey



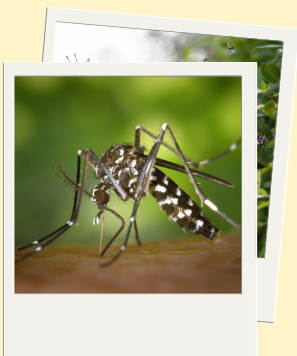
Deck 3 - Characters

A parrot



Deck 3 - Characters

A mosquito



Deck 3 - Characters

An explorer



Deck 3 - Characters

A child



Deck 3 - Characters



Deck 3 - Characters

A scientist



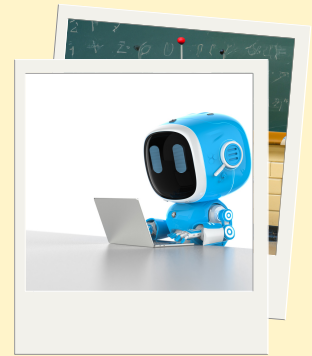
Deck 3 - Characters

An alien



Deck 3 - Characters

A robot



Deck 3 - Characters

A gardener



Deck 3 - Characters

An elderly person



Deck 3 - Characters

A traveller



Deck 3 - Characters



Deck 4 - Improvisation constraints

Comic tone



Deck 4 - Improvisation constraints

Tragic tone



Deck 4 - Improvisation constraints

Clownish tone



Deck 4 - Improvisation constraints

Sad tone



Deck 4 - Improvisation constraints

Police investigation



Deck 4 - Improvisation constraints

Scientific discourse



Deck 4 - Improvisation constraints



Deck 4 - Improvisation constraints

"Once upon a time..."



Deck 4 - Improvisation constraints

"In a faraway kingdom"



Deck 4 - Improvisation constraints

Indiana Jones



Deck 4 - Improvisation constraints

On the news



Deck 4 - Improvisation constraints

Documentary



Deck 4 - Improvisation constraints

Super hero



Deck 4 - Improvisation constraints



Reproduce your own cards!

Your theme:

.....

Your topic:

.....



Deck 1 - Scientific Concepts

Your setting:

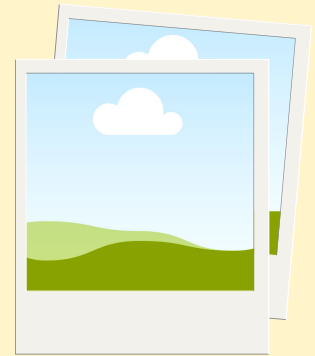
.....



Deck 2 - Scenery and settings

Your character:

.....



Deck 3 - Characters

Your constraint:

.....



Deck 4 - Improvisation constraints



Summary of the activity - Act 2: It's not magic, it's science

This second activity is a unique educational experience that combines the performing arts, magic, and science to bring scientific phenomena to life and make them fun for students. The main aim of this activity is to give students a better understanding of complex scientific concepts by presenting them in front of their classmates in the form of a skit.

This activity has been designed to allow students to develop their imagination and creativity by taking on the roles of illusionists and scientists on stage. They have to explain scientific phenomena rationally through their performance on stage. This activity allows students to discover the power of science while improving their communication, collaboration, creativity, and listening skills. The activity is also good for building self-confidence. By presenting their sketches, students have to overcome their fear of the stage and exposure, which will help them to develop greater self-confidence and self-assurance.

This activity also fosters pupils' scientific curiosity, by showing them how scientific phenomena work, they will be more inclined to explore these subjects further and discover how science influences their everyday lives (weather phenomena, cooking...).



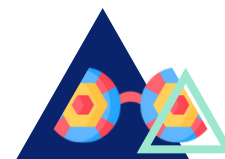
Development of theatrical skits



Duration of the Act : 10 minutes



Scientific experiments



Demonstration skills and communication

Phases of activity

- 1 Form groups of 3 or 4 students and ask them to choose a simple scientific experiment to present to the class that relates to a concept they have already learned about (you can help them if they are short of inspiration).
- 2 Give them time to prepare their skits in advance. They can write their scripts, dialogue, and roles and demonstrate the experience they want to stage (15 days for example). Rotate the groups (one group per week).
- 3 Let them pick costumes, sets and music to make their skits entertaining. They must keep to the 10-minute presentation time limit.
- 4 After each presentation, invite the other students to ask questions and discuss the presentation, the actors' performance, the costumes and the scientific experiment chosen by the group.



Learning objectives

This activity combines several teaching objectives, including an understanding of scientific principles. Students are encouraged to understand the scientific phenomena behind the experiments they present. This can help to strengthen their overall understanding of science and improve their ability to interpret scientific data. Pupils need to explain scientific phenomena simply and understandably. This contributes to the development of their oral communication skills, which are essential for their academic, personal, and professional future.

Being able to give a demonstration in front of their classmates while analyzing and explaining what is happening helps to develop their communication skills in front of an audience while being clear and effective. Finally, the last educational objective of this activity is to encourage scientific curiosity and a passion for science in the students.

Theatrical objectives

As part of this activity, the students create a theatrical sketch, which allows them to discover another theatrical genre: a short, generally humorous play. Creating their sketches requires them to think and imagine before they present them. They have to imagine, write their lines, and stage their scientific experiments, as well as think about their costumes and sets. This activity helps to develop self-confidence, as the students are asked to present themselves and their work in front of their peers, and thus develop their communication skills.

Skills developed

- Communication
- Collaboration
- Creativity
- Self-confidence
- Demonstration
- Scientific understanding
- Apply a concept learned in class
- Explaining and analysing
- Ability to synthesise



Scientific debates and fake news: the real and the fake

To take the activity further, you can set up class debates to raise awareness of the false information that can circulate on the internet and that they may come across. Before the activity, prepare several pieces of paper on which you can write sentences such as:

For example, "the earth is flat", "vaccines are useless" and other ideas. A pupil draws a piece of paper and reads out loud the information on it. The aim is to set up an exchange with the pupils to sort out the truth from the false and thus raise their awareness of the "fake news" and develop a reflective attitude to a given piece of information. Argument, reflection, and debate will be the order of the day for this sub-activity!

The scientific question box

You can set up a class ritual called "the scientific question box" for a short time (10 minutes maximum). It could be as simple as taking a cardboard box and turning it into a ballot box where students can put a question written on a piece of paper. During a lesson, have a student draw a question. He or she should read it out loud to the whole class. All together, try to come up with an answer, perhaps this will open up debates and argumentative exchanges. The aim is to come up with an answer, a collaborative solution to a problem. To take the activity even further, you could show the pupils extracts from Leonardo da Vinci's notebooks of his thoughts, sketches, and drawings... Focus on this famous scientist and enrich their general knowledge.



Summary of the activity - Act 3: Who's Who - Famous scientists

This activity is an effective way of introducing the history of science and raising awareness of the contributions of famous scientists. It also encourages students to develop their general knowledge, while stimulating their curiosity and giving them a better understanding of the world around them.

The first stage of this activity involves secretly handing out cards with the name of a famous scientist (men and women from all eras). The second step is to search for information, which will enable students to better understand the work of their assigned scientist. Students are encouraged to create an identity card (to be printed below) that includes biographical details such as name, date of birth, nationality and major scientific achievements. The third step is to embody their scientist by encouraging them to wear costumes and accessories that match their personality (for example, a student embodying Albert Einstein could wear a laboratory jacket and a grey wig). On the day of the presentation, put several portraits and names of the scientists on the board. The student portraying the character has to get his or her classmates to guess the name by explaining the major scientific contributions of their portrayal. The presentation should last no more than 5 minutes.



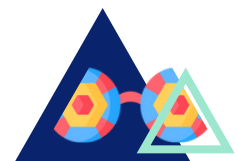
Imagination & Role Play



Duration of the Act :
5 minutes



Science history &
Scientists



Documentary
research, Restitution

Phases of activity

- 1 Present the students with a stack of face-down printed cards of several famous male and/or female scientists. The students must draw a card at random and keep it secretly.
- 2 Print out and distribute the blank identity cards to each student so that they can begin their research and fill them in. Give the students ideas for costumes and sets to interpret their scientists.
- 3 On the day of their presentations: fix the scientists' portraits on the board. Remind them of the rule: get them to guess which scientist they are by using their interpretation.
- 4 At the end of each lesson, discuss with the whole class the scientific contributions and their impact on our daily lives today.



Learning objectives

The main aim of this activity is to introduce the history of science and familiarise students with the contributions of famous scientists. It also aims to develop their general knowledge, stimulate their curiosity and improve their understanding of the world around them. Specific teaching objectives include researching information about the scientists assigned, creating an identity sheet and presenting / creatively interpreting their chosen scientist. The skills developed through this activity are communication, research, creativity and understanding the history of science. Finally, the aim of this activity is to enable students to offer a better understanding of the world around them.

Theatrical objectives

The activity presented here is not just a research activity on famous scientists, but also involves a theatrical dimension that allows students to immerse themselves in their character. Pupils are encouraged to wear costumes and props to embody their scientist, making other pupils guess their identity. They have to explain their major scientific contributions and the prizes and awards they have won. This activity therefore develops pupils' theatrical skills, such as character creation and oral communication, while reinforcing their understanding of the history of science. It encourages the development of oral expression, public speaking, creativity and imagination, while building self-confidence.

Skills developed

- Communication
- Research
- Creativity
- Artistic expression
- Synthesis skills



1,2,3... Action !

To take the main activity a step further, the whole class can work together to create a play in the form of an annual project that can be presented at the end of the school year. Creating a play about the life and work of scientists is an excellent way to stimulate students' creativity and imagination while helping them to better understand scientific concepts, notions and history. Students can work in groups to write the play, taking into account the contributions of their assigned scientist and key events in his or her life. For example, they can follow the chronology of scientific contributions up to the present day. This sub-activity can be fun and engaging and can help students develop an appreciation for the history of science while building their communication, collaboration and creativity skills.

By performing their play in front of their classmates, students can offer a vivid representation of their scientists while developing their collaborative skills. They can work together to create costumes and sets, as well as coordinating movement and dialogue in the play.

Science documentary: on camera

As a complement to the play, students can also make short documentary films throughout the year. This activity can help students develop their communication skills and strengthen their understanding of scientific concepts. They can work in groups to create videos that focus on a specific aspect of the work of certain scientists, explaining the concepts involved clearly and concisely. The videos can be made as television documentaries. Once completed, they can be shared on the class blog/wiki for other teachers, families, and schools in the region or in different countries. This will enable the pupils to reach a wider audience and share their knowledge while boosting their self-confidence.

In short, making educational videos can be a creative alternative for presenting pupils' scientific work. This activity will enable them to develop their communication skills by practicing another form of oral presentation: documentary reporting. Making educational videos is an excellent way for students to develop skills in creativity and digital technologies.



Sample cards - Famous scientists

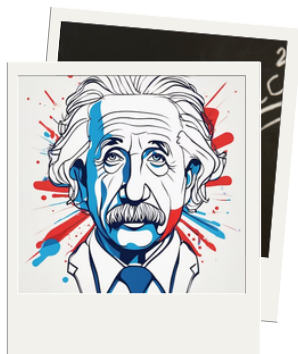
Scientist:

.....



Who's Who - Famous scientists

Scientist:
Albert Einstein



Who's Who - Famous scientists

Scientist:
Michael Faraday



Who's Who - Famous scientists

Scientist:
Isaac Newton



Who's Who - Famous scientists

Scientist:
Marie Curie



Who's Who - Famous scientists

Scientist:
Ada Lovelace

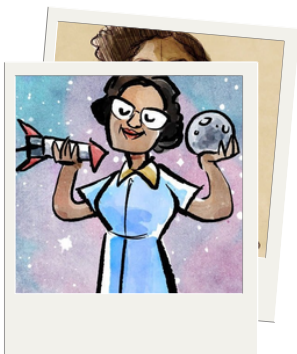


Who's Who - Famous scientists



Sample cards - Famous scientists

Scientist:
Katherine Johnson



Who's Who - Famous
scientists

Scientist:
Louis Pasteur



Who's Who - Famous
scientists

Scientist:
Charles Darwin



Who's Who - Famous
scientists

Scientist:
Archimedes



Who's Who - Famous
scientists

Scientist:
Rosalind Franklin



Who's Who - Famous
scientists

Scientist:
Grace Hopper



Who's Who - Famous
scientists



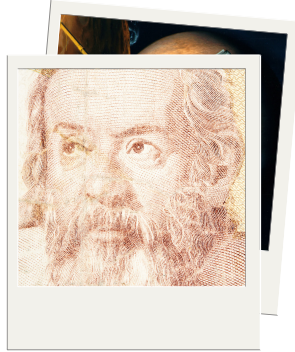
Sample cards - Famous scientists

Scientist:
Dian Fossey



Who's Who - Famous
scientists

Scientist:
Galileo



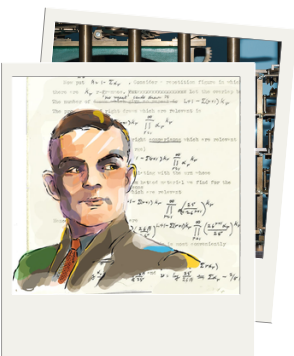
Who's Who - Famous
scientists

Scientist:
Leonardo da Vinci



Who's Who - Famous
scientists

Scientist:
Alan Turing



Who's Who - Famous
scientists

Scientist:
Marthe Gautier



Who's Who - Famous
scientists

Scientist:
Mary Anning



Who's Who - Famous
scientists



Printable identity sheet



IDENTITY CARD - SCIENTIST

First name / Last name:

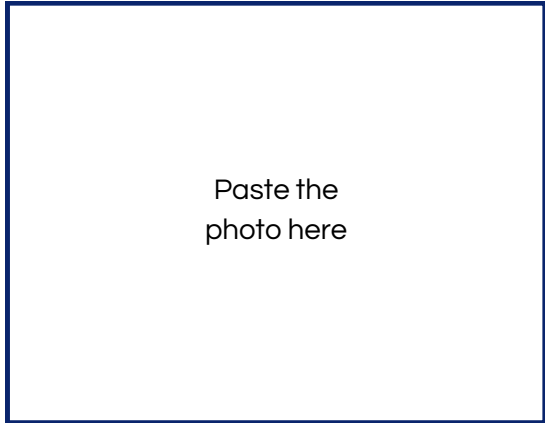
Date of birth:

Date of death:

Place of birth:

Nationality:

Specialities:



Main discoveries

-
-
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Awards & Distinctions

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Known/unknown scientist? Why?

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