Lesson plans

What this pack contains:

Lesson 1: You're the Judges!

Lesson 1 — You're the Judges!
Introduce *I'm a Scientist.*
Choose and rank criteria by which to judge the scientists.

Lesson objectives:
- Consider a range of criteria. Understand that different (important) values may need to be weighed against each other.
- Develop a sense of democracy and how to decide how to cast a vote.
- Discuss different viewpoints. Understand that different values may be important to different people in the class.

Curriculum links:
- Working scientifically – consider ethical, social and practical aspects of science.
- Promotes democracy and SMSC development.

Resources:
- Access to the *I'm a Scientist* website (imascientist.ie)
- 'Interactive drag and drop criteria list' or 'criteria cards for printing' from imascientist.ie/resources-for-teachers

Starter: 5 minutes
Briefly explain the *I'm a Scientist* activity. You can use the first page of the Teacher Guidance and display the website. Students have the power to decide who wins €500. What ideas do they have about science at the moment? Will they change

Activity: 30 minutes
1) Display the criteria list. Use the interactive drag and drop list, or print the cards for students to use in groups. Available at imascientist.ie/resources-for-teachers
2) Get the class to select the most important criteria and write these on the board.
3) Get the class to rank the five most important criteria – save this list for next lesson.

Plenary: 15 minutes
- Mindmap any other criteria that aren't on the list, but that students might consider important when judging scientists.
- Overall message: this will help you judge the scientists as scientists.

Suggested Homework:
1) Provide students with the registration link, or with their username and password.
2) Students log in to imascientist.ie and set up their profile.
3) Students read some scientists' profiles. How does each person perform based on their criteria from today's lesson?

Extension: If they have questions for the scientists, they can post these in Ask.

Suggested adaptations

Support:
Less justification necessary. Lead students into the rationale behind their decisions.

Extend:
Ensure students give full justifications and explanations whenever they express an opinions.

Lesson 2: Meet the Scientists

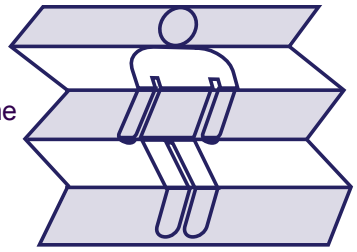
Lesson 2 — Meet the Scientists
Scientific speed-dating. A fun, exciting way to 'meet' the scientists.

Lesson objectives:
- Get to know scientists and realise they are normal people!
- Consider some questions students may want to ask the scientists.
- Broaden the students' perceptions of scientists and contribute to their science capital. Find out more at imascientist.ie/science-capital

Curriculum links:
- Select, organise and present scientific information.
- Evaluate scientific information and make informed judgements from it.

Resources:
- List of the top five criteria chosen in Lesson 1: You're the Judges!
- Printed Suggested Questions sheets found at the bottom of page 3 or online at imascientist.ie/resources-for-teachers. Printed copies of the scientists' profiles who have signed up to your live chat. Find them on your dashboard.
- Paper and pens for drawing a scientist.

Starter: 10 minutes
1) Split students into groups – one group for each scientist whose profile has been printed.
2) Ask them to think about what they imagine scientists are like. Draw a scientist as a group. Starting at the top of the piece of paper, each person draws a different part of the scientist (head, shoulders, etc) without others seeing. They fold over what they have done and pass it on (like a game of consequences).
3) Unfold and look at the pictures – are there any common themes? Do they think scientists are really like that?



Activity: 30 minutes
1) Assign each group a scientist and hand them a print out of the scientist's profile. Get each group to read out their scientist's name and job role.
2) Remind the students of the five most important criteria they chose in Lesson 1: You're the Judges!
3) Get the students to read through their scientist's profile as a group.
4) Split each group in half, into A's and B's, for scientific speed-dating. Those in Group A are students who will go around and question Group B, who are the scientists. Group B will use the printed scientist profile pages on which to base their answers.
5) Hand the Group A students the list of Suggested Questions to ask the Group B scientists. They can also ask questions of their own. If the answer is not available on the scientist profile the group can speculate.
6) The Group B scientists will stay seated and the Group A students will rotate between each scientist, asking questions. Move students on to a new scientist every few minutes.

Plenary: 10 minutes
Go over the questions for each scientist and discuss the scientists as a class. Did students feel they got to know the scientists? What are their opinions of each person? What would they like to ask the scientists? Now may be a good opportunity to draft some questions for Ask and Chat.

Suggested Homework:
Log in to imascientist.ie and post at least one question in Ask.
Extension: Read some of the other questions and answers on the site. Who do you think should win? Cast your vote (you can change it later if you change your mind).

Suggested adaptations

Support:
Do the activity as a class with the 'scientists' at the front. Two or three students play each scientist.

Extend:
Students ask their own questions rather than Suggested Questions to the 'scientists'. Go onto the site and submit some questions in Ask for the real scientists.

Lesson 2: Meet the Scientists (alternative version)

Lesson 2 — Meet the Scientists (alternative version)
If students have access to computers, this version of Lesson 2 allows for more independent learning.

Lesson objectives:
- Get to know scientists and realise they are normal people!
- Explore the site and interact with real scientists using Ask.
- Broaden the students' perceptions of scientists and support students' science capital.

Curriculum links:
- Select, organise and present scientific information.
- Evaluate scientific information and make informed judgements from it.

Resources:
- ICT suite or a computer and projector in the classroom, so students can work together with the teacher leading.

Starter: 10 minutes
Recap the I'm a Scientist activity – reading profiles, posting questions in Ask, live chat and Voting. You can use the first page of Teacher Guidance and display the website.
Or use 'fold game' starter from the scientific speed-dating version of Lesson 2 on page 2.

Activity: 35 minutes
1) In pairs, mindmap suitable questions students want to ask the scientists. Discuss them as a class.
2) Send students to imascientist.ie to log in (independently or in pairs). Read the profiles of the scientists who have signed up for your live chat. Find them on your dashboard.
3) Write down three interesting things from the profiles.
4) Post a question in Ask.
5) Read some of the other questions and answers on the site. Who do students think should win? Cast votes (students can change their vote later if they change their mind).

Plenary: 5 minutes
Students present to the class:
- three interesting things they found out on the profiles
- which scientist they want to win and why
- who they would not vote for and why

Are the scientists as the students expected? If not, how are they different?

Suggested Homework:
Pick one of the scientists. Find out about their area of science and write about it, including:
- what they study
- where they do their research
- a famous scientist from the area they study

Extension: Continue reading the questions and answers already on the site. Comment or post more questions in Ask. If students change their mind about who they want to win, change their vote.

Suggested adaptations

Support:
Give more assistance in thinking up questions. Use the criteria from Lesson 1 and Suggested Questions from Lesson 2 as a basis.

Extend:
Allow more freedom when looking at the site. Write a short paragraph about what they find on the site to present back to the class. Justify more clearly which scientist they like best.

Suggested Questions

1. What kind of place do you work?
2. What do you do?
3. What's your favourite band?
4. Do you work alone or as part of a team?
5. How long have you done your job?
6. What is your research trying to find out?
7. Will your research affect people? If so how many people and in what way?

These Suggested Questions are also available to download and print at imascientist.ie/resources-for-teachers

Lesson 3: Live chat

Lesson 3 — Live chat
Chat to real scientists in the online chat.
See the Teacher Guidance notes for information on preparing for this lesson.

Lesson objectives:
- Interact with scientists in the live chat.
- Increase the relevance of science to everyday life.
- Broaden the students' perceptions of scientists and science.
- Support students' science capital.

Curriculum links:
- Apply principles and concepts to unfamiliar situations.
- Make informed judgements about science.

Resources:
- Live chat booking (important: book in advance from your dashboard).
- Access to the website for individuals or pairs
- List of the top five criteria chosen in Lesson 1
- Suggested questions from Lesson 2

Starter: 5 minutes
1) Log in to the website (imascientist.org.uk).
2) Click Chat at the top of the page to join the session.
3) While waiting for the Chat to start, as a class go over the important criteria from Lesson 1, Suggested Questions from Lesson 2 and questions students have prepared.

If students were hoping to chat with a specific scientist who can't make the chat, encourage them to post their question(s) in Ask instead.

Activity: 40 minutes
Chat with the scientists, as individuals, pairs or small groups. See the teacher guidance for how the chat system works.

In the Chat students can get to know the scientists better, in real time. Remind them that they have a big responsibility, because they can vote for which scientist wins €500.

Plenary: 5 minutes
- Students Vote for who they think should win.
- Are there any other questions they didn't get to ask? Post these in Ask.
- Remind students that they can use the site to ask questions at home if they have access to the internet.

Suggested Homework:
Pick one of the scientists' areas of work. Find out more about an issue facing that area. Either research an issue that came up in the live chat, or write about the biggest issue facing that area of work. Post a question about this issue in Ask.

Suggested adaptations

Support:
Suggest questions or ask scientists the mindmapped questions from Lesson 2.

Extend:
Read scientists' profiles to ask questions about their specific areas of study. What can students learn about the different projects scientists are working on?