

Teacher Notes

What is 'I'm a Scientist'?

You can read this to your students to brief them about the event. It may help to have the website (imascientist.us) up on a projector or interactive whiteboard whilst you describe the event.

I'm a Scientist, is an online event where you get to meet and interact with real scientists. It's in the form of an American Idol show style competition between the scientists. You submit questions which the scientists will try to answer by the next day. These stay on the site so you can read the questions other students have already asked, and the scientists' answers. You'll be booked into a chatroom for 30 minutes where you get to chat with scientists, ask them questions and learn more about them.

You get to vote for the scientist that you think should win a prize of \$500 to promote their work. A student from each zone will win a gift voucher prize for asking the best questions and engaging with the scientists.

Each of you will get a card with a username and password which can be used to log in to the site. You'll need these details every time you log onto the site. When you log in you will be taken to your profile page. Click "Edit Profile", and you will be asked to give an email address, as well as create a display name which will be shown in live chats. Giving your email address will mean you'll be kept up to date with answers to your questions and evictions of scientists.

Once you're on the site you'll be able to do the following:

Meet the Scientists – there are five scientists competing for your votes. They have each posted a profile and answered some set questions. (*You will hopefully cover this in more detail in Lesson 2: Meet the Scientists.*)



ASK - You have the chance to ask the scientists whatever question you like. They'll try to answer by the next day and you'll get an email to let you know it has been answered. Questions and answers remain on the site so have a look around and see what others have asked before you pose your own question. (*Lesson 2: Meet the Scientists will help prepare.*)



CHAT - Live chats are your chance to ask questions and let scientists know your opinions. (*Lesson 3: Live Chat has more details on this.*)



VOTE - You vote for the scientist you think should win a prize of \$500 to promote their work. You can vote at any time and your final vote in each of the four rounds is the one that counts. In the second week the scientists are evicted day by day until the winner is announced on the Friday.

How much time should you spend on it?

Minimum: 2 hours

This will usually be 1 introductory lesson, 1 homework of reading more about the scientists and submitting questions and 1 lesson of live chat with the scientists.

Be warned:

Most teachers, when asked what they would do differently next time said, '*spend more time on I'm a Scientist*'.

Eviction update:

In the second week of the event, evictions take place daily from Tuesday. During this week, even in lessons not on I'm a Scientist, take five minutes at the start or end of the lesson to check the website (imascientist.us) to see who has been evicted.

Lesson Plans

There are many ways to use the I'm a Scientist event. We've put together three lesson plans. These lesson plans were developed in consultation with teachers and have been extensively tested. Most have found them extremely helpful.

Format: Starter/activity/plenary

Suggested adaptations: For lower and higher ability groups

Timings: Designed for 50 mins

Purpose: Develop skills for Working Scientifically.

Further resources (including PowerPoints for each lesson):

Online at imascientist.us/resources-for-teachers

Lesson 1 - "You're the Judges!" Coming to it cold, students may just vote for the scientist with the nicest photo, or the best joke. This lesson plan gets students thinking about some of the deeper issues, while still giving them ownership of the criteria they come up with (rather than telling them what to consider). There's no right or wrong answer, but all students should have thought about how we judge scientists a little by taking part. Do the exercise interactively using the web ranking system we have produced and we can share how other classes have ranked the criteria.

Lesson 2 - "Meet the Scientists" This lesson encourages students to examine the scientists' profiles and think about what they might like to ask them. It's a chance for students to discuss the interesting things they've found and maybe do some extra research before their live chat.

Lesson 3 - "Live Chat" Interaction with scientists and voting gives students practice at using these skills and giving them a real say about something gives them a reason to engage.

Lesson 1: You're the Judges!

Lesson Plans

Lesson 1 – You're the Judges!

Introduce I'm a Scientist.

Choose and rank criteria by which to judge the scientists.

Learning objective:

- Consider a range of criteria and understand that different (important) values may need to be weighed against each other.

Other learning outcomes:

- Encourages students to consider criteria to use in deciding which scientist to vote for and how to judge their work.
- Promotes use of sophisticated criteria, not trivial issues.
- Gives students ownership of criteria.

Curriculum links:

- Consider ethical, social and practical aspects of science.

Resources:

'Lesson 1 – Drag & Drop criteria list' at imascientist.us/resources-for-teachers

Access to I'm a Scientist website (imascientist.us)

Starter: 5 minutes

Explain the I'm a Scientist event briefly (show the site on a projector or interactive whiteboard if possible). The students have the power to decide who wins. What ideas do they have about science at the moment? Will they change?

Activity: 30 minutes

- 1) Display the criteria list or use the Drag & Drop list.
- 2) Get the class to whittle down the most important criteria. Write the five criteria on the board.
- 3) Get the class to rank the five most important criteria.

Plenary: 15 minutes

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

Suggested Homework:

Look at the website and see how each scientist in your zone performs on the five most important criteria your class selected.

Suggested adaptations

Support:

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

Extension:

Ensure full justifications and explanations are given whenever they express an opinion.

Lesson 2: Meet the Scientists

Lesson Plans

Lesson 2 - Meet the Scientists

Scientific speed-dating, a fun, exciting way to 'meet' the scientists.

Learning objective:

- Get to know the scientists in-depth in a structured way.

Other learning outcomes:

- Stimulate interest and raise questions they may want to ask.

Curriculum points covered:

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

Resources:

- List of the top five criteria decided on in Lesson 1: You're the Judges!
- Five copies of the Assigned Questions sheet in "Lesson 2 - Meet the Scientists" at imascientist.us/resources-for-teachers
- Printed downloads of each of the scientists' profiles in your zone.
- Paper and pens for drawing a scientist.

Starter: 10 minutes

- 1) Tell students they will be getting to know the scientists. Split students into five groups and number them 1-5.
- 2) Ask them to think about what they imagine scientists are like. Draw a scientist as a group. Starting at the top, each person in the group draws a different part of the scientist (head, shoulders, etc) without others seeing, folds over what they have done and passes it on (like a game of consequences).
- 3) Unfold and look at the pictures – any common themes? Do they think scientists are really like that?
- 4) Assign each group a scientist from your zone and hand them a print out of the scientist profile from the I'm a Scientist website. Get each group to read out their scientist name and job role.
- 5) Remind the students of the five most important criteria they chose in Lesson 1: You're the Judges! for rating scientists.

Activity: 30 minutes

- 1) Get the students to read through their scientist's profile as a group.
- 2) Split each group in half, into A's and B's, to end up with ten groups for scientific speed-dating. Those in Group A are students who will go around and question the scientists. Group B are the scientists who will use the printed scientist profile pages on which to base their answers.
- 3) Hand the Group A students the list of Assigned 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 as to what their answers could be.
- 4) The Group B scientists will stay seated and the Group A students will rotate between each scientist, asking questions. Ring a bell every 3 minutes to move the students on to new scientists.

Plenary: 10 minutes

All the students discuss the scientists as a class. Go over the questions for each scientist to make sure they got the right answers. Did they like the questions? Did they feel they got to know the scientists? Would they ask similar questions or others?

Suggested Homework:

Bearing in mind the five most important criteria decided on in Lesson 1:

You're the Judges! think of three questions to ask the scientists. Research how a famous scientist (e.g. Stephen Hawking, Isaac Newton, Marie Curie, Dorothy Hodgkin) would answer your three questions.

Suggested adaptations

Support:

Do the activity as a class with the five scientists at the front. 2 or 3 play each scientist.

Extension:

Concentrate more on their own questions rather than assigned questions.
Go back onto the site and submit some questions for scientists.

Lesson 2: Meet the Scientists (alternative version)

Lesson Plans

Lesson 2 – Meet the Scientists (alternative version)

This is an alternative version of Lesson 2 that does not involve scientific speed-dating and student movement around the classroom.

Learning objective:

- Get to know scientists and realise they are normal people!

Other learning outcomes:

- Stimulate interest and raise questions they may want to ask.
- Opportunity to interact with real scientists.

Curriculum points covered:

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

Resources:

- Pupils own pen and exercise book.
- ICT suite or a computer and projector in the classroom so students can work together with the teacher leading.

Starter: 10 minutes

Recap the event, and what can be done on the site. Can also use 'fold game' starter from the scientific speed-dating version of Lesson 2.

Activity: 35 minutes

- 1) As a class brainstorm suitable questions that they want to ask to get to know the scientist. Get students to write them all down. Appoint a question to each pair to ask when they use the site.
- 2) Take students online, (in pairs or threes in ICT suite or all look at site together on projector) and read the profiles of all the five scientists in your zone and the information on the site. See if the impression they get of them is different from what they expected. Decide which scientist they like the best.
- 3) Write down three interesting things they find out on the site.
- 4) Ask a brainstormed question, and one of their own for the scientists to answer when they use the site.
- 5) Present their three interesting things to the class, and for which scientist they intend on voting, or for which they would not vote.

Plenary: 5 minutes

Discuss what they found out – did anything surprise them?

Suggested Homework:

Pick one of the scientists and find out more about their area of science. Students could write about what the scientist studies, where they do their research, and a famous scientist from their field.

Suggested adaptations

Support:

Give more assistance in brainstorming questions. Use the criteria from Lesson 1: You're the Judges! and suggested Lesson 2: Meet the Scientists questions as a basis.

Extension:

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.

Assigned 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?

Lesson 3 - Live chat

Chat to real scientists in our online chatroom.

Learning outcomes:

- Broaden the students' perceptions of scientists and science.
- Increase the relevance of science to everyday life.

Other learning outcomes:

- Get to know the scientists.
- Prompt more thoughtful questions.
- Opportunity to interact with real scientists.

Curriculum points covered:

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

Resources:

- Live chat booking (important).
- ICT suite (or whole class do it together via projector screen).

Starter: 5 minutes

Go over the important criteria from Lesson 1: You're the Judges!, Assigned Questions from Lesson 2: Meet the Scientists and/or brainstormed questions from the alternative Lesson 2. In this live chat lesson the students can get to know the scientists better, in real time. Remind them that they have a big responsibility because each student gets a vote to decide which scientist wins \$500.

Note – Scientists are busy and working full time. It's likely that not all 5 scientists will be able to make every live chat booked so try to manage the classes' expectations. Usually expect 2 or 3 scientists per chat. The important thing is that they get to 'meet' real scientists and find out they are human too.

Activity: 35 minutes

- 1) Log on to the website (imascientist.us) with the username and password noted on the student log in cards, either individually as students or as the teacher if the whole class is doing it together via a projector screen.
- 2) Live chat with the scientists, as individuals, pairs or small groups.

Plenary: 10 minutes

- Sum up what they have learnt about the scientists
- Are there any other questions they didn't get to ask?
- Did they learn anything that surprised them?
- 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 if none arose write about the biggest issue facing that area of work.

Suggested adaptations

Support:

Ask scientists the brainstormed questions from Lesson 2: Meet the Scientists and write down the answers the scientists give to them.

Extension:

Less reliance on Assigned Questions from Lesson 2: Meet the Scientists.

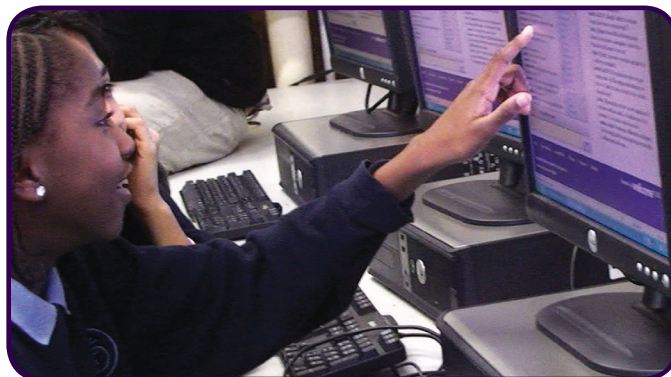
Live chats

“Normally they start putting their coats on five minutes before the end but [when doing the live chats] they were in their chairs still after the bell went.”

Michelle Crooks, teacher, King Arthur's Community School

Before live chat lesson

- Book IT suite/provide internet access for students
- Book live chat - please use the online booking form at imascientist.us/live-chat.
- Do some preparation with your class (we suggest Lesson 1: You're the Judges! and Lesson 2: Meet the Scientists).



During lesson

Explain to your students that they are going to talk in a chatroom with some real scientists. Please encourage them to interact with the scientists, and not just amongst themselves. Encourage students to express their opinions on the work that the scientists do. Tell them there will be a moderator in the chatroom who will help keep the conversation on track and will block disruptive pupils.

- Log in and use your Teacher account to join in the chat – anything you say will have a graduation hat icon by it.
- Live chats are consistently the most popular part of the event – for students, for scientists, and even for teachers!
- They are fun and give immediate contact between scientists and students. Students realise scientists are 'real people' and feel connected to them.
- Many teachers tell us that quieter students are more active in live chats than face to face and it can be an interesting change to class dynamics.
- Don't be embarrassed if your class are rowdy or messing around. The moderators will deal with this.
- Remind your students to ask any questions the scientists didn't manage to answer during the chat under ASK, and to VOTE for their favourite scientist to make sure they stay in the competition.

Teacher tips - other teachers' experiences

In every event we ask teachers in the feedback survey what they would do differently if they ran the event again. Here are the most common answers, in order of popularity:-

1. Spend more time preparing students

Run lessons 1 and 2 before the live chat

"We have just had our live chat. It was the best yet (I think) because we had spent much more time on preliminary activities so we had loads of questions to ask"

"Prepare the class more, carry out the discussions first. Get them thinking about what scientists do, and the decisions they have to make."

2. Involve more students

3. Encourage your students to be creative with their questions

There are better ways to use the event than using scientists as Googlers.

"I'd spend more time working with the group looking at the sort of questions they might like to ask. I did some of this but a number of students persisted in asking 'trivial pursuit' type science questions"

After the event

- Please do fill in the feedback survey we email you. You are the expert on what happened in your classroom. Your feedback will help us to continuously improve the event.
- Please also encourage your students to fill in the student survey on their profiles after the event.
- In each zone the moderators pick a student winner (who they think has asked good questions and really engaged with the event). They get a certificate and a gift voucher prize. We'll let you know if this is one of your students.
- To help all the students feel they have done something important, we have created student participation certificates. Individual ones can be downloaded from the students' profile pages.

Contact

If you need any help please email admin@imascientist.us

For further information please visit: imascientist.us/teachers