

What is a Scientist?

Background

The aim of this session is to introduce students (aged 5-11) to careers in science. Students will explore different professions within science, what lab scientists wear and the attributes of a scientist. They will have the opportunity to draw themselves as scientists and take part in a relay race. This information sheet should be used in conjunction with the 'Primary- What is a scientist PPT' PowerPoint presentation.

What is a scientist?

(Slide 1) Title slide. Begin by asking the students to suggest what a scientist is. Take suggestions and inform the students that a scientist is anyone who is curious about the world around them and wants to find out how it works.

(2) Next, ask the students what a scientist looks like and use the pictures to inform them on the different types of jobs that a scientist can do, for example, working with plants, working on the coast, working with computers and machines, working in space, working under the sea and working in a laboratory. Emphasise that, as a scientist, you can study nearly anything and anyone can be a scientist.

(3) Taking the lab scientist as an example, ask the students what they think a lab scientist would wear? Perhaps to keep safe? Take suggestions and use the pictures to encourage answers.

Activity - Draw yourself as a scientist

(4) Ask the students to draw themselves as scientists. Remind them to include characteristics such as a lab coat, gloves and goggles.

(5) In the next section, you will introduce students to some of the skills and attributes of a scientist. Begin by asking the students to suggest what they think makes a good scientist, what skills/abilities? Take suggestions and then go through the suggested list on the slide.

- Problem-solving - investigating the world around us involves asking questions, why does this do that? Why does that move like that? Etc. These are problems that require solving and working out.

(6) In this next slide, go through the familiar problem-solving riddle of the chicken, fox and a bag of grain.

Explain to the students that they are the person on the side of the river bank. They have to get the chicken, fox and bag of grain across the river on their boat. However, the boat can only fit you and one of the items. Additionally, the following cannot be left alone together on either river bank, as they will get eaten: the fox will eat the chicken, the chicken will eat the grain.

Take suggestions from the class on how they would get all items across the river bank.

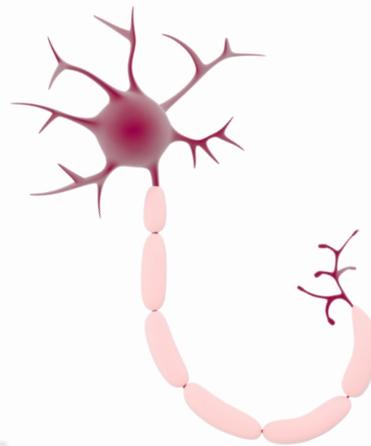
The correct answer is:

1. Take the chicken across and leave it on the other side.
2. Return and pick up the grain. Take the grain across and return with the chicken.
3. Leave the chicken on the original bank and pick up the fox.
4. Leave the fox and the grain on the new river bank and go and collect the chicken.

(7) Observation - a good scientist has to be able to pay close attention to what is going on around them - from tiny details to the bigger picture on what their particular bit of science means for the wider world.



- **(8) Creative** - When people think of creative subjects, they may think of art, however, science requires lots of creativity. The questions and problems that need answering in science need thinking that is outside the box to find answers.
- **Speaking and Listening** - A large part of science is about listening to opinions and theories of other scientists as well as telling others about your own research. This extends to also telling the general public about the science that you are doing.
- **Strong** - This refers to being mentally strong. Science can be difficult and you don't always find the correct answers straight away. You must stay determined and keep working hard.



Activity - Scientist Race

For the final activity, students will have the opportunity to dress up as a lab scientist and compete in a relay race.

Split the class into small groups (5-7 individuals in each group) and arrange them so that half of each group is on one side of the classroom and half on the other side. Students in the same group should stand one behind the other, all facing towards the middle of the room, and the other students on the other side of the room. Rows of students on each side should be in line with the other half of their team on the other side of the room.

Instruct the first student in each team on the right hand side of the room to put on the lab coat, goggles and gloves. When dressed, you may wish to ask the students to throw something to the member of their team at the front on the other side of the classroom. When the object is caught, instruct the dressed student to walk quickly across the room, tag the next member of their team, and sit down at the back of the row. The lab coat, goggles and gloves are then put on that member of the team and the same is repeated until everyone has been dressed up and is now sat down.

These are possible guidelines for the game but you may wish to adapt for the materials that you have and space available. For younger age groups, it is useful to have one member of staff for each group to help with dressing up.

Further information & Resources

Materials needed

- Lab coats (approx. 1 per 5 students)
- Goggles (approx. 1 per 5 students)
- Gloves

Further information on careers in STEM

[STEM learning](http://www.stem.org.uk) - www.stem.org.uk