

How good are the sciences in nurseries and schools in Scotland? A summary for children and young people.

What is this summary about?

Staff from Education Scotland visited nurseries and schools **across Scotland** to find out how well children and young people learn in the sciences. We want to tell you the main things we found and ask **you** what you think about your learning in the sciences to help us all focus on what we need to do next. What we have said in this summary is about what we found when we looked across the whole of Scotland. It might be that this doesn't match what you experience in your school with your teachers.

Who is this summary for?

You – if you are aged between 3 and 18 and studying any of the sciences.

What are the sciences?

Through learning in the sciences, you can develop your interest in, and understanding of, the world around you. You can develop the skills to become creative, inventive and enterprising.

You might be learning about the sciences in a nursery, primary school, special school or secondary school. In secondary schools, the term “sciences” currently includes Skills for Work courses, biology, chemistry, physics, science, human biology, biotechnology and managing environmental resources (MER).

How can you tell us what you think?

We have produced this summary for you because this report is about **your** learning, and your education. We want to hear from you about your learning in the sciences. You can tell us **what you think** using bit.ly/sciences3-18. We'd really like to know what the important issues are to you which affect your learning in the sciences to help us all focus on what we need to do next.

How can you find out more?

You can find the full report on <http://www.educationscotland.gov.uk/learningteachingandassessment/curriculumimpact/>



What do we think is going well in the sciences in Scotland?



Your schools have plans in place for the sciences in the **senior phase**. Schools continue to keep these under review. The **senior phase** is the learning you will do beyond S3, when you have the opportunity to continue to **personally develop** to prepare you for **success in life** beyond school, and to gain **qualifications**.

Teachers are becoming better at using the experiences described in **Curriculum for Excellence** in the sciences to plan your learning in the **broad general education**. The **broad general education** is your learning between the ages of 3 and 15.

More of your **learning brings together different subjects** and curriculum areas. More often, we're seeing this being done in ways which you find **interesting**, and that **make sense** to you in your life.

You are telling us that you really enjoy the **practical work** that you experience in the sciences.

Most of you are making **good progress** in the sciences from your earlier learning. Most of you are **achieving well** in the **senior phase**.

Most of you **enjoy** learning in the sciences, and find that it **motivates** you.

The sciences are popular subject choices in the **senior phase** (learning beyond S3).

To make your learning better, your **teachers are working together** more to **share their ideas** and **think and talk** about making learning better for you.

More of your learning now takes place in your **local environment** and **your community**. You are doing more learning in the sciences **outdoors**.

The ways in which you are learning in the sciences in your classrooms is improving. You are being given more opportunity to be **involved in your learning**, and to learn in more **imaginative** and **exciting** ways.

You are given more opportunity to **work with other children and young people** in the sciences, in a way which helps you learn better.

Through your learning in the sciences, many of you **understand the need to look after our planet** and how the sciences can help with this.

Many of you have the opportunity to learn about the sciences in the **wider life of your school**, for example through your eco work.

At secondary school you are usually given the opportunity to choose to study for a **range of sciences qualifications** at different levels.

Your teachers really want to develop the curriculum in the sciences and make things the best they can for your learning. In secondary schools in particular, your teachers **know a lot about the sciences** and are really **enthusiastic** about the subject.

Your teachers are linking more with **organisations from outside school** and organising **trips and excursions** to make your learning better.

What could be better in the sciences in Scotland?

The Curriculum for Excellence says you are **entitled** to certain things in your learning. Our [website](#) tells you more about **what you can expect from your education** between ages 3 and 18. Your teachers need to plan carefully to make sure that your entitlements are being met, including through your learning in the sciences, and that you are receiving a [broad general education](#) between ages 3 and 15.

Your teachers should be able to do some **professional learning** of their own, **in the sciences**, to help them to **help you**. This learning is particularly important for staff in nurseries, primaries and special schools to help them feel more **confident in teaching you** in the sciences.

Between ages 3 and 18 there are times in your learning when there is a lot of **change for you**. Such times include those when you move from: nursery to primary; one school year to the next; from primary to secondary; or from the broad general education to the senior phase. Across Scotland, schools are not doing well enough at making this as **smooth as it can be**, making sure that they understand what you have **learned before** and **build on this**. Sometimes you end up doing the same learning again.

Your teachers are developing **different ways** of working out **how well you are doing** in your learning, keeping track of this and **telling others about it**, like your parents and other teachers. It is important that teachers keep developing these so that you and others know how well you are doing in your learning in the sciences.

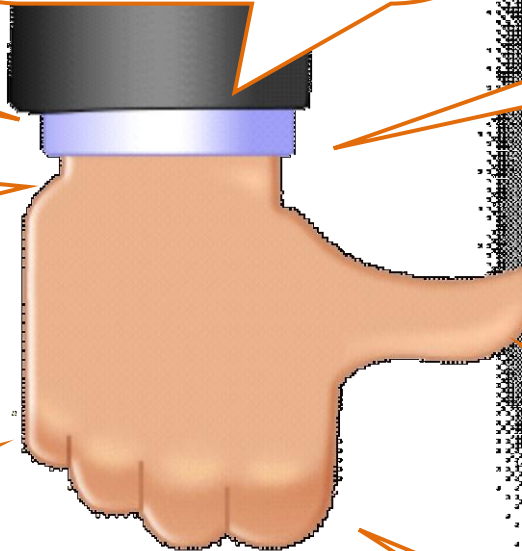
You are not always given the opportunity to learn **in depth** about the sciences. In particular there are some really **important ideas** in the sciences which you are not always learning enough about. We have a [document](#) about this which teachers can use to help them makes this better for you.

Some schools are reviewing their planning for learning in the **senior phase** and making changes that they feel are necessary. The [senior phase](#) is the learning you will do after S3, when you have the opportunity to continue to **personally develop**, to prepare you for **success in life** beyond school, and to gain **qualifications**. Some schools still need to think about how to make sure this is planned carefully to lead on from learning in the [broad general education](#) (from the ages of 3 to 15).

Sometimes learning in the sciences is planned with other learning. We call this **"interdisciplinary learning"** and this can be a good thing. Sometimes though it is not being **planned well enough** so that you develop the correct skills and **learn as well as you possibly can** in the sciences.

You should get regular feedback on your learning. It should help you to identify your **strengths**, **what you could do better** and how to **improve your learning**. Some teachers need to give more helpful feedback.

Often, more **boys choose physics than girls** and more **girls choose biology than boys**. We are pleased to find that this is not the same in every school. Where this is the case, schools need to understand better **why this happens and find out** if young people are making the right choices for them, for the right reasons.



Tell us what you think (bit.ly/sciences3-18)

Your learning matters. Sciences matter. Your voice matters.

In my school...

I agree with
what you've
said about...

Here's what I
think!

My class did
something in science
I'd like to tell you
about...

I want to ask you a
question about what
you've said...

I don't agree with
what you think
about...

