

# **Biology and Maths A Schools Perspective**

Dr Sarah Owenson  
and

Mrs Michele Heath  
Swindon Academy

# Context

## ■ **Swindon Academy**

First 0-19 Academy in the country

Science with Business and Enterprise  
Specialism

Part of the UCST/ULT Group

## ■ **Roles**

Michelle – Curriculum Leader for Maths (0-19)

Sarah -Teacher Leader and SSAT Advanced  
Lead Practitioner For Science

# A Snapshot of Biology Teachers and Pupils

- Pupils are often **not** required to achieve a B grade in GCSE maths
- A level biology is sometimes the only science studied
- Pupils struggle with simple mathematical skills: magnification, calculating percentages, rearranging equations
- Biology teachers have not all completed A level maths

# Maths GCSE

- Higher Tier (HT) and Foundation Tier (FT) GCSE Maths
- You can achieve a C grade in maths from each of these courses – but pupils will have significantly different experiences
- Maths departments should run a GCSE Statistics course for those pupils who wish to study A level Biology
- Maths skills and their transference across the curriculum is crucial

# What is needed?

- Pupils need to see that within the KS3 curriculum there is a transference of maths skills in biology lessons
- Pupils could be given the opportunity to study GCSE statistics
- Maths lessons for biologists - taught by maths teachers
- Maths lessons for biology teachers?
- Ensure only pupils who have undertaken the HT maths course are able to study A level biology

# The Next Steps for Swindon Academy

- Swindon Academy is working with BBSRC to secure funding for a KS3 collaborative biology and maths project across 3 schools
- Year 7's will work for a week in science and maths lessons on the same project (nets and 3D virus structures, data and analysis and exercise)
- Team teach – ideal!
- Problems – trying to get other schools on board has been problematic – national STEM agenda should make this easier...