



Get hands-on  
with real-life  
science

## Science Skills: Microscope in a Box Researcher Guidance

<b>Learning level</b>	Family, drop-on, all levels
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<b>Research themes</b>	Body systems and cells Bacteria Science skills
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<b>Duration</b>	5-15min (adaptable)
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### Science Skills: Microscope in a Box overview:

Participants will be invited to look at different slide samples, using research grade microscopes and looking at real samples. The slides included show rod-bacteria, cheek cells, bone and blood. **This activity can and should be adapted to your own research and themes – get creative!**

**Please note that younger pupils will need to use a step-stool to see into the microscopes. Crush injuries are highly likely if participants hold onto the eyepieces to look down. This activity and equipment MUST be supervised at all times.**

### Learning objectives

- To understand that living things are made of cells
- To understand the variety of cell types
- To appreciate that scientists use microscopes to carry out their investigations
- To reveal the variety of research carried out on the Easter Bush Campus

### Before the activity:

- Contact the organisation to ensure you have access to power, the power load of the LED microscopes is very low so one socket with a 4 way extension is sufficient.
- Familiarise yourself with the activity protocol and suggested timings below.

- Complete the attached template risk assessment and send to the school, the Health & Safety team ([ros48@exseed.ed.ac.uk](mailto:ros48@exseed.ed.ac.uk)) and the EBSOC team ([ebsoc@ed.ac.uk](mailto:ebsoc@ed.ac.uk)).

### Activity protocol

Exercise	Description	Timing
<b>Introduction</b>	Explain that you have four microscopes (1-4) (like the ones use at The Roslin Institute) with four different slides, the challenge is for them to look down each one and draw what they see.	2-3min
	Hand out worksheet and show where pencils and colouring pencils are.  Explain they should not touch the microscopes.	
<b>During activity</b>	Explain that observation and recording is an important skill of a scientist.  Explain how you use microscopes in your work.	5mins
	Encourage the participants to use the written descriptions to match to each microscope.  Pick out features of the slides they are looking at, answer their questions.	
<b>Wrap up</b>	Participants can reveal the answer by turning the clue card, or you can do this with all the participants at once.	2-3 mins
	Take any questions the participants may have.  Congratulate them on successfully completing your microscope challenge.	

**The timings above and associated slides are a guide only – you can adapt these to the time available, or learning level of pupils you are working with.**