

# CHEMICAL SCIENCES WITH DR RODRIGO OCHOA

## TALKING POINTS

### KNOWLEDGE

1. What is biochemistry?
2. What is bioinformatics?

### COMPREHENSION

3. Can you explain some of the reasons why neglected tropical diseases have not been the subject of significant research, despite their significant global impact?
4. How have improvements in computing technology enabled advances in biochemistry?

### APPLICATION

5. Which elements of biochemistry would you like to research and why?

### ANALYSIS

6. What are the motivations behind Rodrigo's research and his decision to become involved in the CABANA project?

### EVALUATION

7. The main ways in which Rodrigo has shared his findings with other researchers are through publishing scientific papers and organising workshops to exchange skills and knowledge. What are the advantages and disadvantages of both methods of sharing research? Which do you think you would find more useful for learning about a topic and why?
8. Rodrigo highlights the importance of persevering when you face failure. When was the last time you faced an obstacle or setback? How did you cope with your frustration? Do you need to focus on being more perseverant in the future? If so, what could you do to develop this quality?

## ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

An important aspect of the CABANA programme is training the next generation of scientists. How would you inspire a younger student to explore an area of science?

Think about a science topic you have learned about recently. It could be something from biology or any other area of science that you are interested in, or it could be Rodrigo's research. Make a lesson plan aimed at a Year 7 student in your school to teach them about this topic. You should include:

- Ideas for a short introductory presentation to introduce the main concepts
- Up to three learning objectives which you want the student to understand at the end of the lesson
- At least two activities which will help the student to understand the concepts you are trying to teach
- A way in which your students can tell you what they have learnt by the end of the lesson.

Just as Rodrigo's work is likened to finding the 'master key' to 'unlock' different proteins, think about how you can use analogies, images, diagrams and simpler language to introduce students to complex ideas.

## MORE RESOURCES

- Find out more about the CABANA programme that Rodrigo was a part of: [www.cabana.online](http://www.cabana.online)
- Read about, 'The value of open data for Latin American science': [www.ebi.ac.uk/about/news/feature-story/open-data-latin-america](http://www.ebi.ac.uk/about/news/feature-story/open-data-latin-america)
- This video provides a useful introduction to protein structure and some of the research questions Rodrigo is trying to address. [www.youtube.com/watch?v=hok2hyED9go](https://www.youtube.com/watch?v=hok2hyED9go)
- The Biochemistry Society offers a range of educational resources: [www.biochemistry.org/education/schools-and-fe-colleges/other-resources](http://www.biochemistry.org/education/schools-and-fe-colleges/other-resources)