

Year 10 – Citizen Science 70min Lesson 1

What is citizen science?

Learning Intentions	Lesson Outcomes
<ul style="list-style-type: none"> • Students will explore the world of citizen science projects • Students will investigate scientific approach, the methodology through which all science is carried out • Students will explore different jobs in STEM that require collaboration and benefit from citizen science 	<ul style="list-style-type: none"> • Understand what it means to be a citizen scientist • Understand that citizen science projects are essential for investigating big problems and large amounts of data • Understand that scientists all follow the same approach when carrying out research. This is known as a scientific approach. • Be able to talk about different careers and research areas in STEM and how these might benefit from citizen scientists, including generating new career opportunities.
Australian Curriculum Content Descriptors	Australian Curriculum General Capabilities
<p>Science</p> <p>Science as a Human Endeavour</p> <p>People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people’s lives, including generating new career opportunities (ACSHE194)</p>	<p>Critical and creative thinking</p> <ul style="list-style-type: none"> • Inquiring, identifying, exploring and organising information and ideas <p>Critical and creative thinking</p> <ul style="list-style-type: none"> • Generating ideas, possibilities and actions <p>ICT Capability</p> <ul style="list-style-type: none"> • Investigating with ICT
Assessment	
<p>Formative assessment</p> <p>In groups students will carry out 4 activities investigating citizen science projects and careers in STEM. After each they will discuss their findings with the rest of the class in an informal discussion.</p>	

Phase/Slide	Learning Activity	Resources
Slide 1 - 4	<ul style="list-style-type: none"> • Greetings/introduction • Acknowledgement of Traditional Custodians • Lesson outcomes 	PowerPoint
Slide 5 - 6 Engage	<ul style="list-style-type: none"> • Introduction to scientists around the world 	PowerPoint
Slide 7 Explore Evaluate	<ul style="list-style-type: none"> • Activity 1: In groups students will write down some research areas that they know of and all the different STEM professionals that could collaborate on these research projects. They then discuss their ideas with the class. 	PowerPoint and video
Slide 8 Engage	<ul style="list-style-type: none"> • Introduction to citizen science projects 	PowerPoint
Slide 9 Explore	<ul style="list-style-type: none"> • Outline and discuss the 10 principles of citizen science 	PowerPoint
Slide 10 –11 Explore Evaluate	<ul style="list-style-type: none"> • Explore some famous, successful ongoing citizen science projects around Australia today • Watch the video about Uni NSW’s Environment Recovery Project • Activity 2: Activity 2: Class discussion <ul style="list-style-type: none"> – How does this project actively involve citizens in scientific endeavour that generates new knowledge or understanding? – What is the genuine science outcome of the project? – What is the benefit of the project to society? – What are some of the ethical considerations of the project? • Explore BioBlitz and how this project operates 	PowerPoint and links to https://youtu.be/l63GdM3JwPc https://citizenscience.org.au/the-australian-bioblitz-hub/

Phase/Slide	Learning Activity	Resources
Slide 12 - 13 Evaluate Explore Reflect	<ul style="list-style-type: none"> • Activity 3: in groups students will explore some citizen science projects that need their help today and then report back to the class • Teacher: students are asked to spend a few minutes on zooniverse – a citizen science project website – pick a topic that interests them and find out what the citizen scientists must do to contribute. Facilitate and guide them through the discussion when they are reporting back to the class. 	PowerPoint And link to https://www.zooniverse.org/
Slide 14-15 Evaluate, Reflect Problem solve Explain	<ul style="list-style-type: none"> • Introduction to scientific approach 	PowerPoint
Slide 16 -18 Evaluate Elaborate	<ul style="list-style-type: none"> • Introduction to a career in STEM, industry jobs and helpful advice about career paths for students interested in a career in STEM. • Activity 4: Research task <ul style="list-style-type: none"> – In groups students will pick one of the jobs mentioned in the slides – Using the website CareerHQ database, research information about the career – Students need to imagine they were to have this job, then write down how they would use scientific approach in this role. – Report back to the class 	PowerPoint https://careerhq.com.au/careers-database
Slide 19 Evaluate reflect	<ul style="list-style-type: none"> • Wrapping up of ideas 	PowerPoint
Slide 20	<ul style="list-style-type: none"> • USC current research 	PowerPoint
Slide 21	<ul style="list-style-type: none"> • Links to video and references 	PowerPoint

