Virtual Work Experience:
Data Scientist

Micro Unit Outline

- **Relates to:** I.T/Computer Science; digital literacy and online safety; career exploration; work experience

Date		Room	
Period		Class	

Equipment and resources

Each student requires a computer/device with good internet access and earphones.

Accomodations and adjustments

Virtual Work Experience:
Data Scientist

Years: 8-12   **Duration: 2-3 lessons**

Introduction:

- Transform the **Year13 X CommBank Data Scientist Virtual Work Experience** from an individual student experience to a teacher-led class learning activity.

- Students gain insight into the world of data science and earn a certificate for their portfolio.

- The Virtual Work Experience (VWE) will span several lessons depending on the length of your classes.

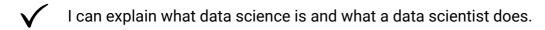- Students must mark all activities as complete and finish the survey to earn their certificate.

Learning Intentions:

- Explore the career of a data scientist.

- Identify key skills and pathways in data science.

- Apply data science concepts to practical scenarios

Enterprise Skills:

- Digital literacy

- Attention to detail

- Critical and analytical thinking

Student Success Criteria:

✓ I can explain what data science is and what a data scientist does.

✓ I actively engage in the VWE activities to demonstrate my enterprise skills.

✓ I reflect on my learning experience and save my certificate to my profile.

THE VIRTUAL WORK EXPERIENCE PROGRAM   **C** Career Tools

Data Scientist

Lesson Activity	Teacher Instruction
Introduction 15 min	**Ask** Note responses on the board. Add new insights as the answers are revealed throughout the VWE. Reflect upon the questions at the end to measure how students' understanding has deepened. Activate students' prior knowledge by asking: • **What is 'data science' and why is it important?** • **What does a data scientist do and where might they work?** • **What interests and skills do they need?** **Read and Watch (4 min video)** Read the **Data Science Virtual Work Experience Overview page** with the class. Ask students to identify answers to these questions as you watch the video together: 1. **What does Shayla like about data science?** It helps people improve business; it can lead you to any industry you're interested in - any place that has data needs a data scientist (banks, Netflix, YouTube); likes the attention to detail required; thinks it's important for the future with AI; feeling like a detective; solving challenging and interesting problems. 2. **How did Shayla discover data science?** Began electrical engineering at uni and loved the programming subject which led her to discover data science. 3. **What skills does she say data scientists need?** Programming and statistics; curiosity; willingness to learn; problem solving. 4. **What advice does she give to people interested in data science?** Start with Python or R programming languages; be curious; attend tech and data science events and network; take opportunities.

A Day in the Life 15 mins	**Read** Read the day in the life of a Data Scientist information with the class so they understand the key terms **Ask and watch (3 min video)** Ask students to identify answers to these questions as you watch the video together: 1. **What does Dharani say she did at high school that is useful to her now?** Developing her analytical thinking skills in maths to learn to solve problems. 2. **What enterprise skills (she says 'soft skills') are important in her role?** Communication so you can articulate your ideas clearly. 3. **What was Dharani's pathway to her current role?** Maths and science subjects at school -> chose a data science course -> met a CommBank mentor -> applied for the CommBank Graduate Program - > spends 20% of her time upskilling with Udemy courses. 4. **What advice does she give to high school students interested in data science?** Get a foundation with subjects like maths and exposure to coding and the tech space to develop confidence and find your niche. Find something you're good at and that you want to keep working on to set yourself up for success
Pathways 5-10 mins	**View pathways map** **Ask students to explain their understanding of:** • the equivalent senior subjects for your state (map suggestions are for HSC). • **Bootcamps and micro-credentials:** intensive short courses to learn practical skills. Not always accredited but may be industry recognised. • **Bachelor's Degree:** first university qualification; usually 3-4 years. • **Master's Degree:** a higher university qualification after a Bachelor's Degree; usually 2 years and may involve research.

	• **VET:** Vocational Education & Training at TAFE or Registered Training Organisation (RTO). Remind students that a VET Diploma or Advanced Diploma may provide entry to, and credit towards, a university degree.

Supporting Documents

Lesson Activity	Teacher Instruction
Student Sign Up 5 mins	**Instruct** Provide students with the Data Scientist Virtual Work Experience link: **https://year13.com.au/virtual-job-experience/datascientist/overview?preview=26bc6efdf174f44272b2629badc4543d** Click on 'Activities' in the left menu - students will be prompted to log in or sign up. • **Log in** using Google credentials *OR* • **Sign up** with an email address and password. Enter month and year of birth, and indicate they are studying at school. Skip the mobile verification step by clicking 'next'
Activity 1: Cleaning Data 10 mins	**In the next 3 activities, students will assume the role of a Data Scientist at CommBank in the Financial Crime Team.** **Lead the activity** Read the introduction and activity instructions with the class. View the data table and ask students to answer the 4 multiple choice questions on their devices. Read the conclusion together and instruct students to move to the next activity.

Activity 2: Categorising Data 10 mins	**Lead the activity** Read the introduction and activity instructions with the class. Students answer 5 multiple choice questions: • Netflix and Hoyts • Sydney Water, Energy Australia, Optus, Telstra • Woolworths, Starbucks, UBER Eats, Dinner • 7-Eleven (Fuel) • Bunnings, Christmas Gift Read the conclusion together and instruct students to move to the next activity.
Activity 3: Finding Suspicious Transactions 10 mins	**Lead the activity** Read the introduction and activity instructions with the class. View the data table and ask students to answer the 6 multiple choice questions on their devices. Read the explanation that accompanies each answer so students understand why they are correct. • 755572 • 681353 • 770672 • 624035 • 449468 • 919306 Read the conclusion together and instruct students to click on 'certificate' on the left menu.
Reflection and Extension 15 - 30 mins	**Reflect** Upon completion, students are prompted to complete a multiple choice survey to measure the impact of the Virtual Work Experience. Deepen students' self-reflection by discussing their answers to questions: • **How likely are you to study STEM after school?**

- **How much do you know about careers in tech?**
- **How much better is your understanding of working as a data scientist having taken this virtual work experience?**

Return to the introductory questions to reflect on how students' understanding of the occupation has developed.

Certificates
1. Students may download their certificates.
2. Instruct them to upload their certificate to their **e-portfolio**.

Extend
1. Click on 'Next Steps' in the left side menu to explore related occupations.
2. Explore and shortlist cyber security VET and university courses using the **Good Universities Guide.**