Year 7: Introduction to Science

	Check	Date
Introduction to Science		
Brainstorm: What is science?	☐	
Identify specialist branches of science (Physics, Chemistry, Biology, Astronomy and Geology)	☐	
Describe the work of two scientists from two different branches of science. Include one Australian scientist.	☐	
Draw a scientist Did you draw a male with fuzzy silver hair and glasses? **Explain** why	☐	
Working Scientifically		
WS4a. identifying questions and problems that can be investigated scientifically (ACSIS124, ACSIS139)	☐	
Introduce the idea that all discoveries start with questions	☐	
Identify the different type of questions scientists ask (What, how and why)	☐	
Describe the basic principles of the scientific methodology (aim, hypothesis, materials etc)	☐	
CODE: 7Intro1 First-Hand Investigation: Bubbleology (Oxford pg5) Use mix of glycerine, dishwashing liquid and water to make bubbles. Students measure and average sizes.	☐	
WS6b. assembling and using appropriate equipment and resources to perform the investigation, including safety equipment	☐	
WS6c. selecting equipment to collect data with accuracy appropriate to the task (ACSIS126, ACSIS141) 🖥	☐	
WS6f. performing specific roles safely and responsibly when working collaboratively to complete a task within the timeline 👫	☐	
Laboratory safety		
Identify safety symbols used in the laboratory	☐	
Identify safety rules to follow in the laboratory	☐	
Outline risks and precautions to take in order to remain safe in the laboratory	☐	
Describe the benefits of working in groups within the laboratory	☐	
Scientific equipment		
Identify common equipment used in the laboratory	☐	
Identify the use of the above mentioned pieces of equipment	☐	
Draw scientific diagrams of common equipment	☐	
CODE: 7Intro2 First-Hand Investigation: Using a Bunsen burner Introduces the features and safe use of a Bunsen burner. Get all students to talk through the steps for lighting a Bunsen burner safely or to simulate lighting it before actually lighting one	☐	

WS4b. making predictions based on scientific knowledge and their own observations (ACSIS124, ACSIS139)	☐	
WS5.2b. outlining a logical procedure for undertaking a range of investigations to collect valid first-hand data, including fair tests	☐	
WS5.2c. identifying in fair tests, variables to be controlled (held constant), measured and changed	☐	
WS6e. recording observations and measurements accurately, using appropriate units for physical quantities 📖	☐	
Predictions and hypothesis		
Define the terms predictions and hypothesis	☐	
Distinguish between prediction and hypothesis, using **examples**	☐	
Investigating and solving problems		
Identify the 5 human senses	☐	
Distinguish between an observation and an inference, using **examples**	☐	
Define the terms qualitative and quantitative data, using **examples**	☐	
Identify how qualitative and quantitative data is recorded	☐	
Identify a range of measurements and the units for each	☐	
Scientists preparing for an experiment		
Define the terms variable, fair-test, reliability, validity and accuracy	☐	
Identify the three types of variables found within science (Independent, Dependent, Control)	☐	
Describe the requirements of a fair-test, reliability and validity	☐	
Distinguish between reliability and validity using examples	☐	
CODE: 7Intro3 First-Hand Investigation: Determine the boiling point of both tap water and saltwater - Define boiling and melting point - Write up using correct scientific methodology and terminology - Identify risks involved in experiment - collect record data in a table and draw a line graph to represent the data	☐	
CODE: 7Intro4 First-Hand Investigation: To demonstrate the impact of surface colour on absorption of heat energy - Write up using correct scientific methodology and terminology - Identify risks involved in experiment - Collect record data in a table and draw a line graph to represent the data	☐	

WS7.2b. constructing and using a range of representations, including graphs, keys and models to represent and analyse patterns or relationships, including using digital technologies as appropriate (ACSIS129, ACSIS144) 🖥️▦🎓	☐	
WS7.1a. summarising data from students' own investigations and secondary sources (ACSIS130, ACSIS145) ▦⚙️	☐	
WS7.1b. using a range of representations to organise data, including graphs, keys, models, diagrams, tables and spreadsheets ▦	☐	
WS7.1e. applying simple numerical procedures, e.g. calculating means when processing data and information, as appropriate ▦	☐	
Identify a range of representations used to organise information/data (tables, graphs etc.)	☐	
Distinguish between different types of graphs and how to use them appropriately	☐	
Describe the correct procedure for constructing tables and graphs (placement of variables, units and headings)	☐	
CODE: 7Intro5 First-Hand Investigation: Making a ping pong ball bounce sideways (Oxford pg14)	☐	

Comments and Suggested improvements

Name: **Signature:**   **Date:**