



# AUSTRALIAN CURRICULUM: GERMAN CLIL UNIT PLANNER

**SEQUENCE: F-6**

**YEAR LEVEL/BAND: 5-6**

**UNIT: KINDER UNIVERSITÄT**

**LECTURE: 3D-DRUCK**

*This Unit Planner developed by, and kindly shared by former [AFMLTA](#) President, Kylie Farmer, has been adopted by the Goethe-Institut Australien.*

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**Please note**

These resources are designed to be implemented optimally with a focus on the content knowledge as well as language. CLIL is flexible; however, to enable the learning of new content and/or skills through the Target Language some code switching between the students’ first language and the target language might be required. Assessment may be in the form of observation, conversation or a product.

**Focus Questions:** What technical devices exist in your school and at home and how do they work? What are the similarities and differences between traditional printers and 3D printers? What does 3D mean compared with 2D? How might the 3D printer be used to solve current and future problems?

Goals	Language Focus		Content Focus		
			Learning Areas	Cross Curriculum Priorities	General Capabilities
	<p><b>Communicating Strand</b></p> <p><b>Socialising</b> (ACLGEC139)</p> <p><b>Informing</b> (ACLGEC140)</p> <p><b>Translating</b> (ACLGEC144)</p>	<p><b>Understanding Strand</b></p> <p><b>Systems of Language</b> (ACLGEU148)</p>	<p><b>Mathematics:</b> Learn about how computers and other devices calculate using the binary system in the <i>Lingo Macht MINT Magazine Heft 5: Die Welt der Zahlen</i>. (ACMNA124)</p> <p><b>Science:</b> Find out about 3D printing in the medical field: <a href="https://www.medicaldevice-network.com/features/3d-printing-in-the-medical-field-applications/">https://www.medicaldevice-network.com/features/3d-printing-in-the-medical-field-applications/</a> (ACSHE100)</p> <p><b>HASS:</b> Economics and Business- What are some significant benefits to using a 3D printer for production? E.g. speed, accessibility, cost effectiveness, tangibility etc. (ACHASSI123)</p> <p><b>Technologies:</b> How do the different types of 3D printing work? E.g. Stereolithography (SLA), Selective Laser Sintering (SLS), Fused Deposition Modeling (FDM), Digital Light Process (DLP) and Multi Jet Fusion (MJF). (ACTDEK023)</p> <p><b>Health:</b> Why do 3D printers need to be used in a well ventilated areas? (ACPPS054)</p>	<p><b>Sustainability</b> Is 3D printing a sustainable manufacturing method? <a href="https://amfg.ai/2020/03/10/how-sustainable-is-industrial-3d-printing/">https://amfg.ai/2020/03/10/how-sustainable-is-industrial-3d-printing/</a> (OI.8)</p>	<p><b>Critical and Creative Thinking</b> How could the 3D printer be used to solve current and future problems? Use the thinking routine Options Explosion to explore your ideas.<a href="https://pz.harvard.edu/sites/default/files/Options%20Explosion_0.pdf">https://pz.harvard.edu/sites/default/files/Options%20Explosion_0.pdf</a></p> <p><b>Ethical Understanding</b> What are some of the ethical issues to consider when using 3D printers? E.g. piracy or printing human organs. <a href="https://www.abc.net.au/science/articles/2015/02/11/4161675.htm">https://www.abc.net.au/science/articles/2015/02/11/4161675.htm</a></p>

**Aspects of the 5-6 Band Achievement Standard being addressed through this Lecture:** Suggested aspects of the Achievement Standard for the proposed Assessment Tasks are noted numerically on the following page next to each task. A full listing of all aspects of the Achievement Standard is to be found on the final page, noting that the numbering system is not from ACARA, but rather developed for the purpose of presenting this series of Unit Planners.

	<b>Student Tasks</b>	<b>Language Assessment Tasks</b>		<b>Materials and Resources</b>
<b>Implementation</b>	<ul style="list-style-type: none"> <li>Understand a short (technical) film.</li> <li>Find precise information in a text.</li> <li>Expand their passive and active vocabulary.</li> <li>Understand technical terminology in context.</li> <li>Understand and answer simple thematic questions.</li> <li>Formulate their ideas/opinions using simple verbal tools.</li> <li>Use and develop learning strategies (use pictures as a learning tool, take notes, make conjectures, reconstruct processes, correctly spell words).</li> <li>Prepare and hold a short presentation for the group.</li> <li>Understand and follow instructions.</li> <li>Reflect on learning (ongoing).</li> </ul>	<p><b>Aural/Oral:</b> Students respond to teacher questions and ask questions for clarification throughout the concept, including when reflecting on learning.</p>	1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14, 17	<p><b>Materials:</b></p> <ul style="list-style-type: none"> <li>Scanner</li> <li>Printer</li> <li>Toy cars</li> </ul> <p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>Students logged in to the Kinderuni website to access the exercises or print a copy of the exercises to complete before/during and after watching the video as a class.</li> <li>Access to digital or hardcopy dictionaries is ideal for some activities.</li> </ul> <p><b>Additional Teacher Resources:</b></p> <p>Handbook, attachments and video script are available for pdf download from the teacher's version of the website.</p> <p><b>Materials for download:</b> Film entitled "5 unglaubliche Anwendungsbereiche von 3D-Druckern" (in German) <a href="https://www.youtube.com/watch?v=omog28b8cYc">https://www.youtube.com/watch?v=omog28b8cYc</a></p> <p>Learning German through STEM After School Program: <a href="https://lernen.goethe.de/kinderuni/pdf/Lesson_Plan_Lecture_10_3D%20Printing.pdf">https://lernen.goethe.de/kinderuni/pdf/Lesson_Plan_Lecture_10_3D%20Printing.pdf</a></p>
		<p><b>Audio-visual/Written:</b> Students view then discuss the short technical film, and complete the associated worksheets and/or online activities.</p>	1, 2, 3, 5, 6, 7, 15, 16, 17	
		<p><b>Aural/Oral:</b> Students interact with others in the class while completing worksheets and/or online activities.</p>	1, 2, 3, 5, 6, 7, 14	
		<p><b>Inquiry Product:</b> Students select an area of interest around the concept of 3D-Druck (see Content Focus above for further ideas) and present their findings to the class.</p>	1, 2, 3, 5, 8, 10, 11, 15, 16, 17	
	<p><i>From the After School Program:</i></p> <ul style="list-style-type: none"> <li>Know how a 3D printer works.</li> <li>Know adjectives to describe objects (schnell, langsam, groß, neu, schön, alt, neu, rot, grün, ...).</li> <li>Describe objects in a sentence (Der/Die/Das ... ist ...).</li> </ul>	<p><b>Extension Activities:</b></p> <p>Form expert groups on the use of 3D printers in different fields. Possible fields include: medicine, clothing, food, construction, traffic - etc. The groups carry out research on their fields and present their results in a "scientific" conference, inviting family and peers. (ACHASSI122)</p>	1, 5, 7, 9, 11, 13, 15	

Lecture: <b>3D-Druck</b> <i>Observational Assessment</i>	Achievement Standard	How I see myself:			How my teacher sees me:		
		I know this in German.	I know this in English.	I still need to work on this.	You know this in German.	You know this in English.	You still need to work on this.
I know how the technical devices at school function e.g. scanner, printer, 3D printer and how they work together.	5						
I can understand a short (technical) film on the topic.	5, 17						
I can find precise information in a text.	5, 6, 16						
I know new words and expressions on the topic.	10						
I can understand new technical terminology in context.	15, 16						
I can make and test conjectures about what one can do with a 3D printer.	5, 6, 8						
I can understand and answer simple questions on the topic.	1, 2, 4						
I can formulate my ideas/opinions using simple verbal tools.	1, 4, 14						
I can use and develop learning strategies.	5, 6, 7, 10, 14						
I can prepare and hold a short presentation for the group.	1, 4, 8						
I can understand and follow instructions.	1						
I can reflect on my learning.	11						
<i>From the After School Program:</i> I can use adjectives to describe objects (schnell, langsam, groß, neu, schön, alt, neu, rot, grün).	3						
I can describe objects in a sentence (Der/Die/Das ... ist ...).	1, 2						

### Overall Assessment

Well Above Standard <b>A</b>	Above Standard <b>B</b>	At Standard <b>C</b>	Below Standard <b>D</b>	Well Below Standard <b>E</b>
The student can complete all of the challenges above in German with minimal English to help explain content, displaying excellent cognitive, communicative and creative skills.	The student can complete all of the challenges above in German with some English to help explain content, displaying above average cognitive, communicative and creative skills.	The student can complete the most of the challenges above in English with some German words and phrases, displaying sound cognitive, communicative and creative skills.	The student can complete some the challenges above in English with some German words and phrases, displaying sound cognitive, communicative and creative skills.	The student can complete little or none of the challenges above in English, displaying limited cognitive, communicative and creative skills.

## Australian Curriculum: German 5-6 Band Achievement Standard (F-10 Sequence)

1. Students use written and spoken German for classroom interactions, to carry out transactions, and to share ideas and opinions, relate experiences and express feelings.
2. Students use complete sentences in familiar contexts to ask questions such as, *Bist du fertig? Was machst du jetzt? Verstehst du das?* respond to requests and share experiences of learning, for example, *Ich kann gut sprechen, aber ich finde das Lesen und Schreiben schwierig.*
3. Students use descriptive and expressive vocabulary, including adjectives such as *aufgeregt, glücklich, nervös, sauer* and *traurig*, to express feelings and make statements such as *Ich nehme ein Käsebrötchen.*
4. Students use appropriate intonation for simple statements, questions and exclamations, and correct pronunciation, for example, for the two different pronunciations of *ch*.
5. Students gather and compare information from different sources about social and natural worlds, and convey information and opinions in different formats to suit specific audiences and purposes.
6. Students describe characters, events and ideas encountered in texts, and re-create imaginative texts to reflect their imaginative experience.
7. When creating texts, students manipulate modelled language to describe current, recurring and future actions, for example, *Wir gehen morgen schwimmen. Kommst du mit? Es geht mir nicht gut.*
8. Students produce original sentences with common regular and irregular verbs in the present tense, including limited forms of the modal verbs *dürfen* and *müssen* and some common separable verbs such as *mitbringen* and *fernsehen*.
9. Students use adjectives, adverbs and adverbial phrases to qualify meaning, for example, *viel Wasser, neue Schuhe; lieber, oft, jeden Tag.*
10. Students explain aspects of German language and culture, recognising that there are not always equivalent expressions in English, and create a range of bilingual texts to support their own language learning and the school community.
11. Students describe aspects of their intercultural interactions that are unfamiliar or uncomfortable, and discuss their own reactions and adjustments.
12. Students give examples of how German language and culture are continuously changing and are influenced by other languages and cultures.
13. Students identify and apply some of the systematic sentence structure and word order rules of German.
14. Students identify rules for pronunciation and apply phonic and grammatical knowledge to spell and write unfamiliar words, for example, words containing *ch, j, w* and *z*, and diphthongs such as *au, ei, eu* and *ie*.
15. Students apply the conventions of commonly used text types, and identify differences in language features and text structures.
16. Students give examples of the variety of ways German is used by different people in different contexts.
17. Students make connections between culture and language use, and identify ways that language use is shaped by and reflects the values, ideas and norms of a community.