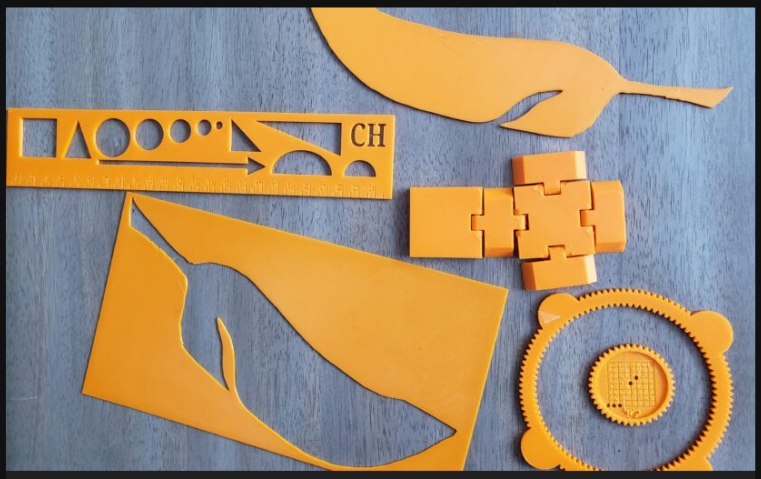


Integrating 3D Design and Print With Core Subjects

Welcome! This website was created to facilitate easy navigation of several units and information in how to integrate three dimensional design & printing with traditionally core subjects and content.

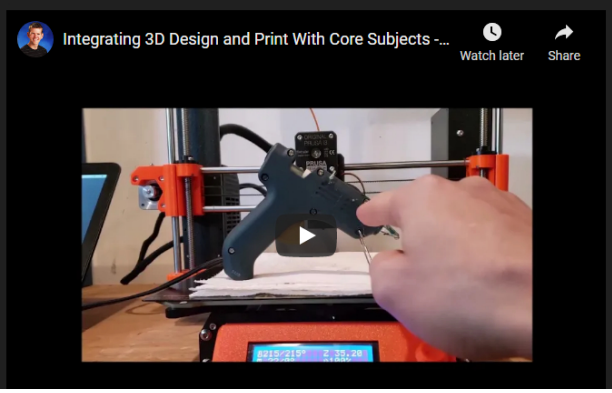
My interest in this area began when my school acquired a 3D printer of which I became the steward. As 3D printing had become quite a common topic at technology related professional development events, I started searching for all the ways (I thought) that I could use the printer in my practice.

I was frustrated to find very little resources in how to weave 3D design & printing with my day-to-day teaching without sacrificing time to teach traditional content (suggested in the B.C. Curriculum) of common subjects.

Thereon, I created and tested lessons in which 3D design & printing could act as a meaningful supplement to common subjects while still exposing students to enough technological activity to cover portions of the Applied Skills and Design curriculum.

The site features 10-20 minute tutorial videos which include an introduction to 3D design & printing and basic drafting tools, plans and demonstrations of units which weave design & print with subjects like Language Arts, Math, and Art, and some considerations for educators to keep in mind when using the technology.

If you are new to the topic I suggest starting with the Introduction video below, where I explain the basic workings of 3D design & printing. If you would like to skip ahead to the main content, you can find their links in the menu bar.



Conclusions, Reflections, Literature (Video 6)

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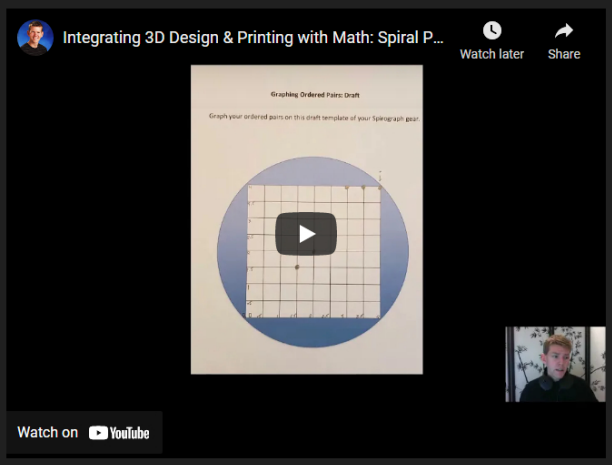
Language Arts Unit

As I bemoaned my frustration of teaching Poetry to my colleague one lunch hour, she chuckled and suggested if I could only find a way to teach Poetry with 3D printing, then my problems would be solved.

Thanks to Sophia, the lightbulb went on. The video below is a demonstration of the unit which I created which weaves Language arts and A.D.S.T. curriculum/content together through 'Spiral Poetry'.

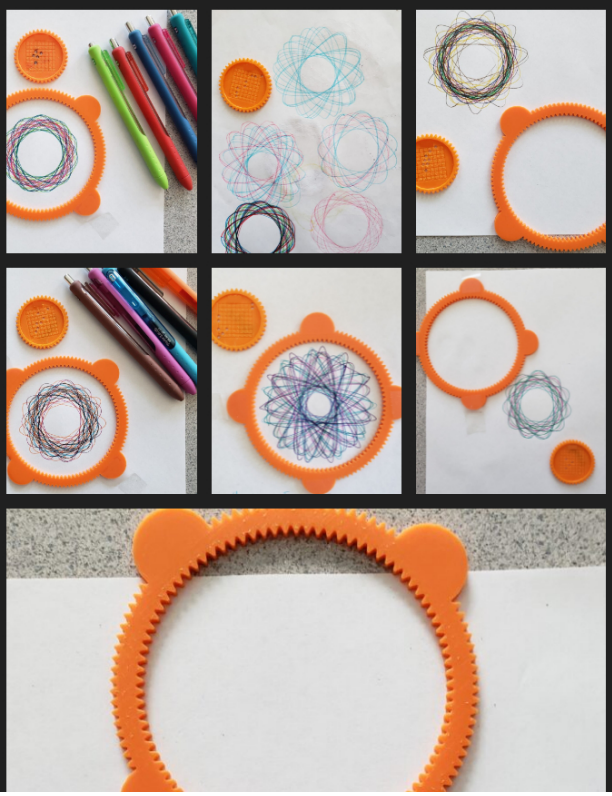
You will find resources for the unit below the video.



Spiral Poetry Unit Handouts **DOWNLOAD**

Spiral Poetry Unit Plan **DOWNLOAD**

Student-made Examples



3D Design & Printing With Core Subjects
Supplementing Traditional Subjects With 3D Tech

Integrating 3D Design and Print With Core Subjects (Video 1)
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Art & Indigenous Education Unit (Video 3)
Mathematics Unit (Video 4)
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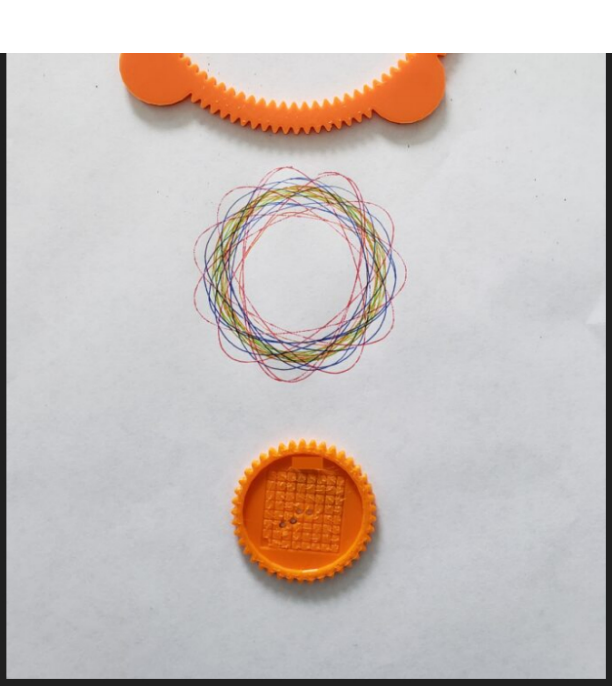

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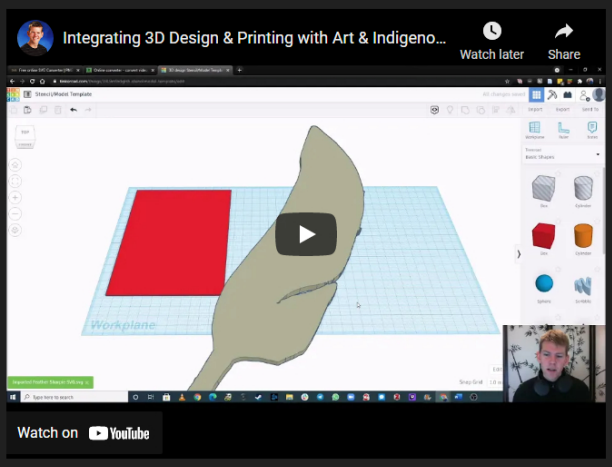
Art & Indigenous Education Unit

In thinking of how I could supplement Indigenous education content at my school, I was lucky to be on the same grade team (or department, if you will) as the dedicated Indigenous Education Teacher. Thanks to his input, I was able to brainstorm ideas for a supplementary Indigenous Arts unit, which he was able to use in his Indigenous Education programming.

The video below is a demonstration of how students will create a custom stencil which feature multiple scaled Coast Salish Art Elements or full stencils of Coast Salish symbols.

One should note that this unit was created and tested in partnership with my colleague after he expressed interest in how the 3D printing technology could possibly augment his program. I suggest to anyone interested in this work to present it to your own Indigenous Education colleagues before teaching the unit.

You will find resources for the unit below the video.

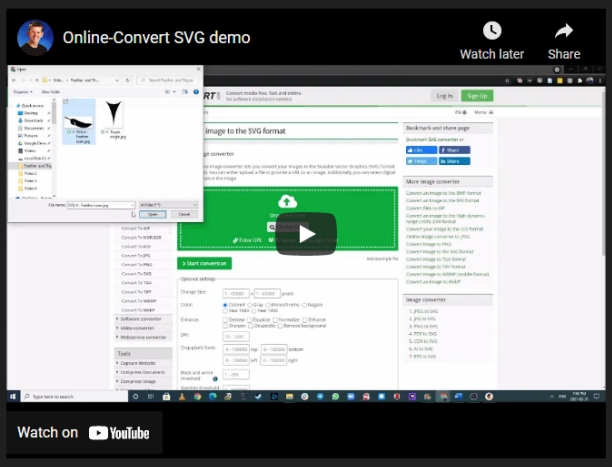


Supplementary Indigenous Art Unit Handouts **DOWNLOAD**

Supplementary Indigenous Art Unit Plan **DOWNLOAD**

Check out Perpetual Salish for copies of Coast Salish Art Elements and other good resources.

Below is a demo of how to use Online-Convert, if required.



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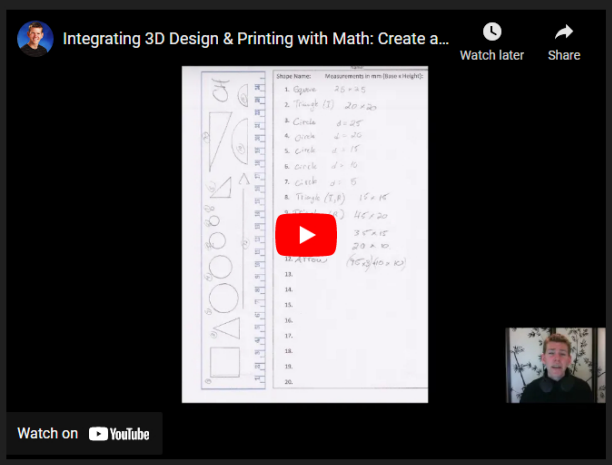
Mathematics Unit

It may come as no surprise that the cross-curricular relationship between Mathematics and A.D.S.T. is a strong one. As we educators are on the perpetual quest of making Math fun and intuitive, I created this unit to teach some universal math skills but also have the students design an object they would uniquely call their own.

The video below is a demonstration of how students will create a custom stencil-ruler hybrid. Out of the three units currently featured on this site, I taught this unit last as it requires some experience with Tinkercad.

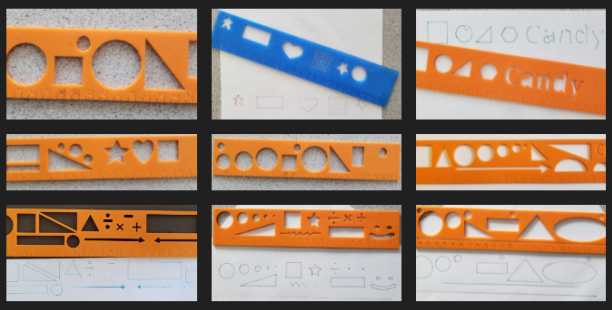
You will find resources for the unit below the video.



Custom Ruler Unit Handouts DOWNLOAD

Custom Ruler Unit Plan DOWNLOAD

Student-made Examples



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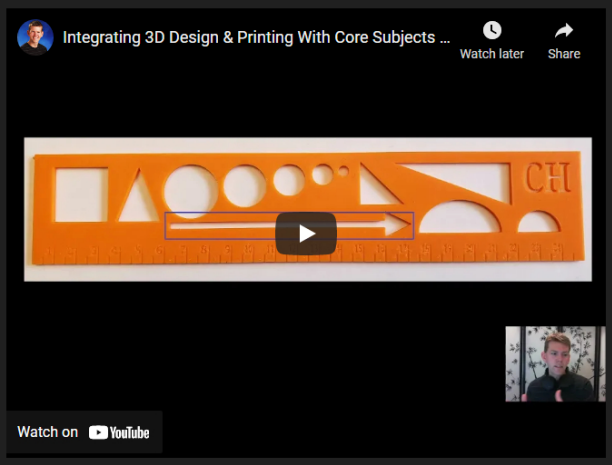
Considerations When Using 3D Design and Print in Education

In the last video of this series, I felt it was important to address some of the benefits of 3D printing in education as well as some of the pitfalls. Furthermore, I offer a reflection on how teaching the 3 previous units went in my practice.



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Each resources is demonstrated and reviewed in its corresponding video.

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Spiral Poetry Unit Plan **DOWNLOAD**

Supplementary Indigenous Art Unit Handouts **DOWNLOAD**

Supplementary Indigenous Art Unit Plan **DOWNLOAD**

Custom Ruler Unit Handouts **DOWNLOAD**

Custom Ruler Unit Plan **DOWNLOAD**

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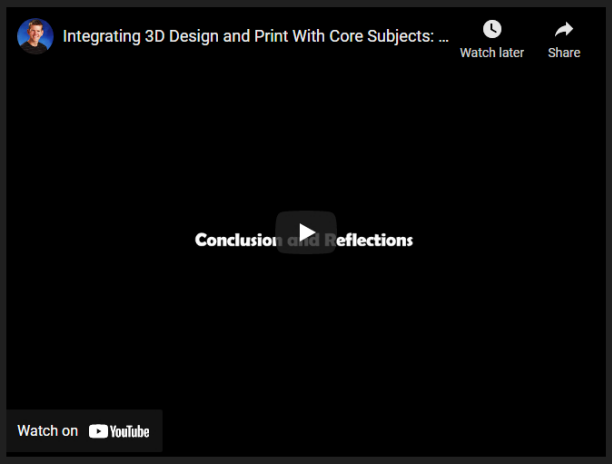
Conclusions, Reflections, Literature (Video 6)

The following video does not include any teaching content for the video series, but is rather a presentation on my conclusions and reflections on the topic of Integrating 3D Design and Print in education.



If you would like to read my full paper on the topic, a copy is provided below:

Howlett_Clayton_MEd_2021 DOWNLOAD

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