



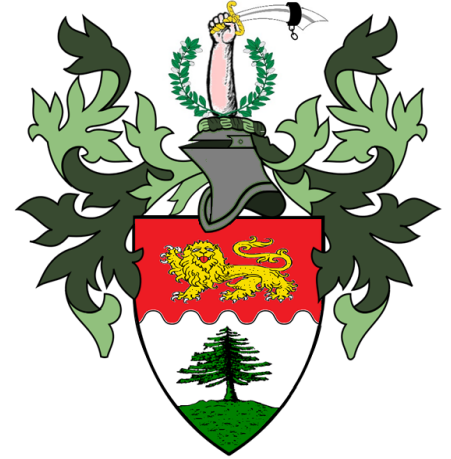
## Designing 3D Family Crests

### Materials

- Internet access
- 3D printer or Glowforge
- (For non-tech options) Colored construction paper
- Scissors, tape, glue sticks, markers, crayons, etc

### Standards

- **4-6.CT.1** Develop a computational model of a system that shows changes in output when there are changes in inputs.
- **7-8.CT.1** Compare the results of alternative models or simulations to determine and evaluate how the input data and assumptions change the results.
- **4-6.DL.3** Conduct and refine advanced multi-criteria digital searches to locate content relevant to varied learning goals.
- **7-8.DL.3** Compare types of search tools, choose a search tool for effectiveness and efficiency, and evaluate the quality of search tools based on returned results.
- **RH4:** Determine the meaning of words and phrases as they are used in a text, including content-specific vocabulary related to history/social studies.
- **RH7:** Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.



### Procedure

- Students will be provided with background information or will be instructed to research what a Family Crest is
- Next they will need to gather information about what is important to them (interests, activities, etc) as well as their family. (traditions, family tree, family history)
- Students will then begin to create their family Crests which will depict images gathered from the information they collected.



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# Lesson Plan Activity

- Students will learn what symbols represent specific words, actions, jobs etc and begin planning on how to place them on their crests
- Utilizing construction paper, or poster board students will design and create a layout of their family crests. They should be decorated utilizing the 4 quadrants with students placing a symbol in each representing themselves and their family. Students can create the symbols on their own or research and find pictures online to use.
- Students will present their family crest to the class showcasing what they have included as representation of their family.

## Extension Activity

- Creating your Family Crest using 3D technology such as TinkerCAD or Glowforge
- Create a class in TinkerCAD and invite students using your class code to join and design a family crest based on the research they have completed.
- This same process can be done with a Glowforge in which students can create their family crest in any drawing program such as Google Draw and then uploaded to Glowforge for printing