Model of a Traditional Indigenous Bentwood Box

--- Planning sheet ---

1. Select a design to use for one of the faces of your box (based off pdf on website and copies in class). This will help determine dimensions. Include a sketch of your dimensions below for your box and lid. You have 2sq.ft of material to use only!
2. Calculate how much material will be required for this box (i.e. the surface area). Remember, you have 2sq.ft of material to use only!

Model of a Traditional Indigenous Bentwood Box

--- Planning sheet ---

1. Once your dimensions are figured out and you know you have enough material, calculate how much this box can hold (i.e. the volume)
2. Select a design to use. This will be redrawn as a scaled drawing somewhere on your box (on the lid or under the lid).



Model of a Traditional Indigenous Bentwood Box

Teacher assessment

Include a sketch of your dimensions below for your box and lid

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Emerging** | **Developing** | **Proficient** |
| * All measurements were included on sketch
 |  |
| * Units were provided
 |  |  |  |
| * Measurements of box matches sketch
 |  |

Calculate how much material was required for this box (i.e. the surface area)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Emerging** | **Developing** | **Proficient** |
| * Box calculations correct
 |  |
| * Lid calculations correct
 |  |  |  |
| * Total surface area provided, with units
 |  |

Calculate how much this box can hold (i.e. the volume)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Emerging** | **Developing** | **Proficient** |
| * Volume calculation correct, with units
 |  |

Complete a scaled drawing

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Emerging** | **Developing** | **Proficient** |
| * Original drawing had precise grid
 |  |
| * Scale was included
 |  |  |  |
| * Drawing is to scale
 |  |
| * Drawing is a replica of original (not freehanded)
 |  |

Once project is complete: self-assessment

|  |  |  |  |
| --- | --- | --- | --- |
| ***Learning Targets*** | **Emerging**: Understanding **with support** required; unable to demonstrate independently | **Developing**:Understand **with small amounts of support**; may need redirection | **Proficient**: Understand **without support**; may have small errors |
| I can identify the 2D shapes that make up 3D objects |  |
| I can create a 3D model based on a 2D net drawing |  |
| I can measure the dimensions of a 3D object and calculate its surface area |  |
| I can measure the dimensions of a 3D object and calculate volume |  |
| ***Curricular Competencies*** | **Emerging**: Understanding **with support** required; unable to demonstrate independently | **Developing**:Understand **with small amounts of support**; may need redirection | **Proficient**: Understand **without support**; may have small errors |
| ***Reasoning and modelling**** Model with mathematics in situational contexts
 |  |
| ***Understanding and solving**** Visualize to explore and illustrate mathematical concepts and relationships
* Apply flexible and strategic approaches to solve problems
* Solve problems with persistence and a positive disposition
* Engage in problem-solving experiences connected with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures
 |  |
| ***Communicating and representing**** Represent mathematical ideas in  concrete, pictorial, and symbolic forms
 |  |
| ***Connecting and reflecting**** Use mistakes as opportunities to advance learning
* Incorporate First Peoples worldviews, perspectives, knowledge, and practices to make connections with mathematical concepts
 |  |