Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_ Date: \_\_\_\_\_

**9.0A Volume & Surface Area of Rectangular Prisms\_Classowrk**

*Objective: be able to find the volume and surface area of rectangular prism using manipulative model.*

Use the video to take notes: <https://www.youtube.com/watch?v=bfS8LCPn4lA>

**VOLUME**

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\* Rectangular prism volume formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SURFACE AREA**

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* Rectangular prism S.A. formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **EXAMPLE 1:**Label each face. Find the dimensions of each face and use them to find the surface area.

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 | **EXAMPLE 2:**Find the volume and surface area of the following rectangular prism. Label your answers. |

![j0215948[1]]()**Box Project**

Miller’s Fine Foods wants to create box for macaroni and cheese that will enclose *24 cubic inches.* They call on your industrial engineering firm to design a package. The project is assigned to you.

1. Design 3 boxes with different dimensions that would meet the needs of Miller’s Fine Foods for macaroni and cheese.

|  |  |  |
| --- | --- | --- |
| **BOX 1** | **BOX 2** | **BOX 3** |
| Image result for cereal box | Image result for cereal box | Image result for cereal box |

1. Which one of your boxes would use the least material to make? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Support your answer using words, numbers and/or diagrams.**

|  |  |  |
| --- | --- | --- |
| **BOX 1** | **BOX 2** | **BOX 3** |
|  |  |  |

1. You found a low bid for cardboard that costs $0.035 per square inch. How much would your macaroni box cost to produce? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Support your answer using words, numbers and/or diagrams.**

1. Miller’s Fine Foods wants to ship their macaroni in containers that will hold 24 boxes.
2. What could be the dimensions of the shipping box be? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Support your answer using words, numbers and/or diagrams.**

1. How many cubic yards would that box hold? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Support your answer using words, numbers and/or diagrams.**