**WEEK 6 – Scratch Net Creation**

**Grade:** Junior (4-6)

**Unit:** Spatial Sense

**Curriculum Expectations**   
 Construct three-dimensional objects when given their top, front, and side views  
**SEL-**See themselves as capable math learners, and strengthen their sense of ownership of their learning, as part of their emerging sense of identity and belonging

**Activity  
1)** Students will use Scratch for this activity through tinkering with code to calculate volume and create a new net. Go to: https://scratch.mit.edu/projects/386582900 or scratch.mit.edu and search bdickso9 and find *Cube Net.* **2)** Run the program by clicking the green flag. Once you run the program, click “See inside” to see how the net was constructed with code  
**3)** Based on the code and the shape that is drawn, as well as your knowledge of the nets of prisms, fill in the recording sheet below.   
**4)** Once done, pick one net that you would like to build (or two or three if you want!)   
**5)** Using Scratch build the code (you may adjust the code already built in the cube net as the pen function is not easy to find in newer versions of Scratch) to have your Sprite sketch out the net of this prism. You must also change the Sprite’s costume, colour, background etc.   
**Note:** if you have not done a Scratch lesson yet, it is advised that you complete the junior lessons from weeks 1 and 4 to expose yourself to coding and to Scratch. If computer access is unavailable, using the attached screenshots, students can run an unplugged version of this game. Use tape or string track their ‘sprites’ movement and plot out their new net. The important part is that students are creating the nets of prisms.

**Check for Understanding**   
I can identify nets of various prisms and   
I understand how to create a net of a prism with a set volume and dimensions   
I can write step-by-step code to create the net of a prism with determined dimensions

**Materials**   
Recording sheet (attached below), access to Scratch or space to program unplugged ‘sprites’

|  |  |  |
| --- | --- | --- |
| **Prism type** | **Number of faces** | **Draw the net** |
| **Cube** |  | A screenshot of a cell phone  Description automatically generated |
| **Pyramid** |  |  |
| **Triangular Prism** |  |  |
| **Rectangular Prism** |  |  |

Unplugged Coding: This activity can be done to compliment or replace the online Scratch activity if access to a computer is not available. Students will sketch out the net that they want to build. Students will then draw or stack these blocks to create their own ‘code’ to program their sprite to move to trace the net. Once the sprite has moved, use something to trace on the ground to ensure that the Sprite is the following the correct path.

String

Angle

Movement

Turn \_\_\_\_\_\_\_ 0 in \_\_\_\_\_\_ direction.

Take 1 step forward

String down

A screenshot of a cell phone

Description automatically generated