Algebra

Mathematics begins with your worldview

Cedar Hearts

Size 2
Size 1
Size 4

What would the area of a Size 10 Cedar heart be?
What about ANY size cedar heart?

Developed at NWIC by Mercedes MacCurdy (Stillaguamish)

Sheila’s Beads

How many beads are there in the tenth row of Sheila’s pattern?
How many beads in ANY row of the pattern?

CHALLENGE: How many TOTAL beads in a pattern with 10 rows?

Developed at NWIC by Sheila Cooper (Nooksack)

Sewing squares

What are the area and the perimeter of each of the squares shown?
What would the perimeter of a square with area 12.25 be?
What about the perimeter of a square with area A?

Developed at NWIC by Carol Wilson (Assiniboine)

Cedar Baskets

Side Length: 4in
Side Length: 2in

How many strands of Cedar will you need to make a cedar basket with a 6 inch side?
What about a cedar basket with a 10 inch side?
What about a cedar basket of any size?

Developed at NWIC by Priscilla Leon-Williams (T’a:al’ees – BC, Canada; Tulalip Tribes)

Bracelet Pattern

A bracelet design with 3 blue triangles
A bracelet design with 1 blue triangle
A bracelet design with 4 blue triangles

How many total beads will you need for a bracelet design with ANY number of blue triangles?

CHALLENGE: explore the relationship between the number of Blue beads and the number of Gray beads

Developed at NWIC by Zachariah Bunton (Lummi)

Stars on a quilt

A 6-pointed star
A 5-pointed star
An 8-pointed star

What angle would you need to cut to make a 10-pointed star?
What about a star with ANY number of points?

Developed at NWIC with Carol Wilson (Assiniboine)

Medicine Box

Structure 1
Structure 3
Structure 5

Can you describe the total area of the Medicine box for ANY structure number?

CHALLENGE: can you visualize the pattern in a DIFFERENT way?

Developed at NWIC by Johnny Buck (Wanapum/Yakama)

Crochet Pattern

Three layers
Two layers
Four layers

How many stitches are there in the tenth layer?
What about in ANY layer?

CHALLENGE: how many TOTAL stitches are there in a design with 10 layers?

Developed at NWIC by Jamielle Ramko (Lummi)

How many strands of Cedar will you need to make a cedar basket with a 6 inch side?
What about a cedar basket with a 10 inch side?
What about a cedar basket of any size?

Developed at NWIC by Priscilla Leon-Williams (T’a:al’ees – BC, Canada; Tulalip Tribes)

Math has always been a part of Native art and design.

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Patterns are included with the permission of the individuals who described them.

Developed at NWIC by Jamielle Ramko (Lummi)