# HOW AND WHY!

Using real life contexts and drawing out multiplication problems provide concrete visuals and engages students in math that is relevant to them. It attaches meaning to the numbers and helps student link to science concepts (moons orbiting planets or bees pollinating flowers) or fun times (basketball, holidays)

These 6 printables can be used as small group or independent work as well as in stations or as anchor activities. Students will create 2 number sentences or equations for each situation they draw. (repeated addition, multiplication and/or division)

It reinforces geometry shape terms (triangle, circle, oval, rectangle, quadrilateral)

A second game, roll an area bump, uses closed array models to give visual representation of rows and columns to help students develop proportional reasoning and identify parts and wholes.

You supply 2 dice. Laminating or putting in page protectors makes a cost effective way to model reusing materials. Three example pages are included.
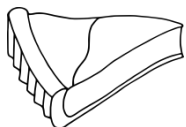
Pies on the table

The Lord Jesus himself said: It is more blessed to give than to receive. (Acts 20:35)   How will you share your holiday pies? Directions: Roll 2 dice. The smaller number is the number of tables. Draw that many rectangles to represent the tables.

The larger number represents the number of pie slices. Draw that many triangles to represent the slices of pie on each table. How many total pie slices are there?

Create an addition number sentence to represent the total number of slices AND a division equation to show how many slices of pie per table.

Trees and Apples

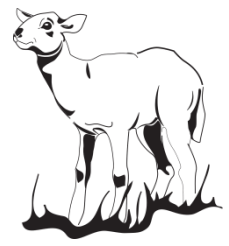Matthew 7:18 "A good tree cannot bear bad fruit"

Directions: Roll 2 dice.

The smaller number is the number of trees. Draw that many triangles to represent the trees.

The larger number represents the number of apples. Draw that many apples on each tree. How many total apples are there?

Create an addition number sentence to represent the total number of apples AND a multiplication equation to show how many apples per tree.
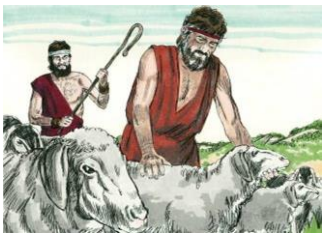
Shepherds and Sheep

David, Moses and Abraham were all shepherds. Directions: Roll 2 dice.
The smaller number is the number of shepherds. Draw that many
circles to represent the area the shepherd watches.
The larger number represents the number of sheep. Draw that
many X's in the circles to show how many sheep are in each field.
How many total sheep are there?
Create an addition number sentence to represent the total
number of sheep AND a multiplication equation to show how many
sheep each shepherd watches.

Fish and nets

Peter, Andrew, James and John were all fishermen. How many fish did they catch? Directions: Roll 2 dice. The smaller number is the number of nets. Draw that many squares to represent the nets.

The larger number represents the number of fish. Draw that many in the circles to show how many fish are in each net. How many total fish did they catch?

Create an addition number sentence to represent the total number of fish AND a multiplication equation to show how many fish each net held.

Planets and moons

Genesis 1: 14-15. God said, "Let there be lights in the vault of the sky to separate the day from the night, and let them serve as signs to mark sacred times, and days and years, and let them be lights in the vault of the sky to give light on the earth."

Directions: Roll 2 dice.

The smaller number is the number of planets.

Draw that many small circles to represent the planets (leave room for moons.)

The larger number represents the number of moons.

Draw than many moons orbiting each planet.

How many total moons are there?

Create an addition number sentence to represent the total number of moons AND a multiplication equation to show how many moon per planet.

Planets and moons

Job 26: 9 God covers the face of the full moon, spreading his clouds over it.
Directions: Roll 2 dice.
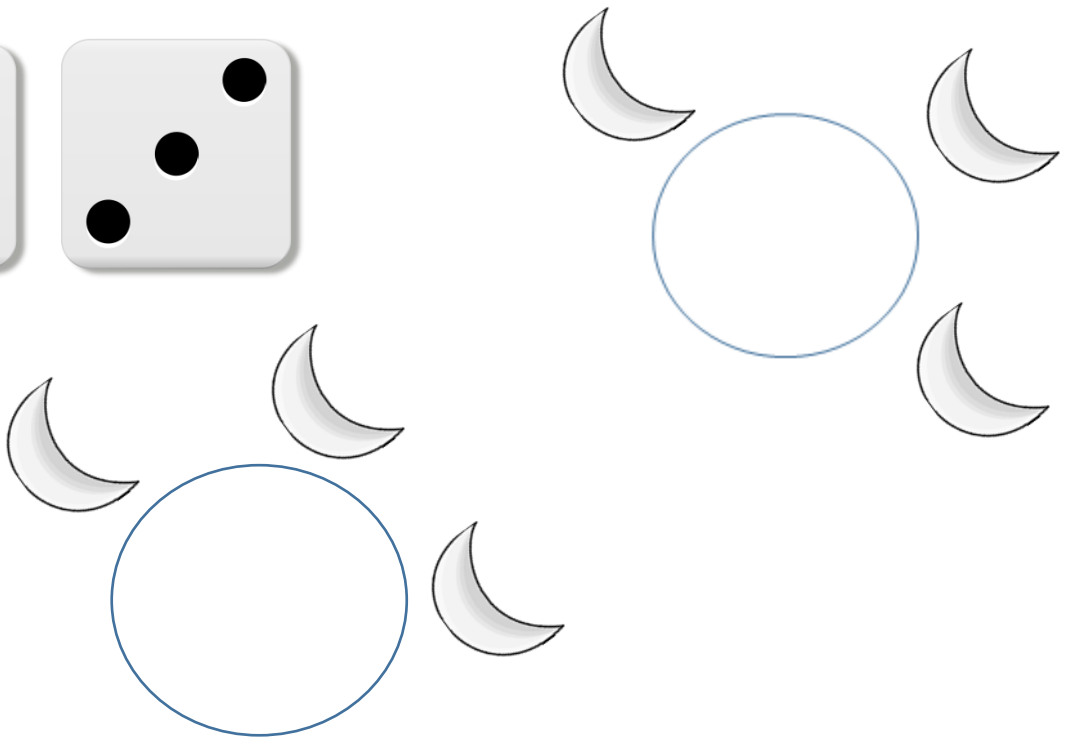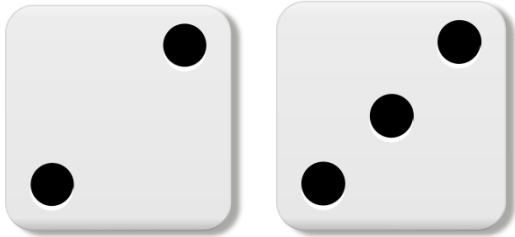The smaller number is the number of planets.
Draw that many small circles to represent the planets (leave room for moons.)
The larger number represents the number of moons.
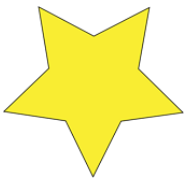Draw than many moons orbiting each planet.
How many total moons are there?
Create an addition number sentence to represent the total number of moons AND a multiplication equation to show how many moon per planet.

$$2 + 2 + 2 = 6$$
$$3 \times 2 = 6$$

Stars and planets

Psalm 136: 8-9 - God made the sun to govern the day, and the moon and stars to govern the night.

Directions: Roll 2 dice.
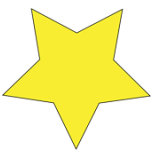
The smaller number is the number of stars.

Draw that many stars leaving room for planets.

The larger number represents the number of planets.

Draw than many planets orbiting each star.

How many total planets are there?

Create an addition number sentence to represent the total number of planets and a division equation to show the number of planets per star.

Stars and planets

Psalm 8:3-4 When I consider your heavens, the work of your fingers, the moon and the stars, which you have set in place, what is mankind that you are mindful of them, human beings that you care for them?

Directions: Roll 2 dice.

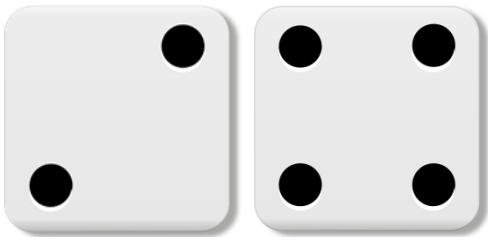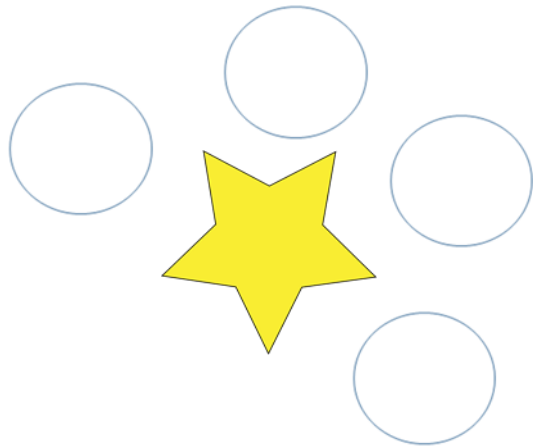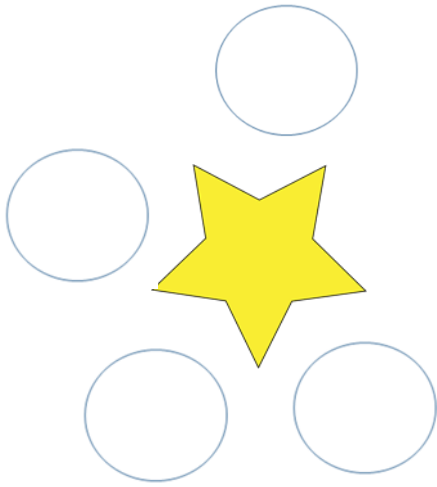The smaller number is the number of stars.

Draw that many stars leaving room for planets.

The larger number represents the number of planets.

Draw than many planets orbiting each star.

How many total planets are there?

Create an addition number sentence to represent the total number of planets and a division equation to show the number of planets per star.

$$2 + 2 + 2 + 2 = 8$$

$$8 \div 2 = 4$$

Roll an area bump.

Proverbs 31: 10 & 16

A wife of noble character who can find? She is worth far more than rubies. She considers a field and buys it; out of her earnings she plants a vineyard.

How big was the field she bought?

Materials needed
Bump game, 2 dice, different color tokens or markers for each player.

Directions for the game

Roll 2 dice to find the length and width of the field. Multiply them together and announce both the multiplication equation (number sentence) and product. Cover the corresponding field with your color. If another player gets the same product, that player can remove the original player's color and add his or her color. If a player has 2 covers on a quadrilateral field, no other player can bump them off. Winner is player with most fields covered.

Proverbs 31 roll an area bump.

Directions: Roll 2 dice. Find and mark a quadrilateral with those dimensions. If another player rolls the Same numbers, they can bump.

Any player with two marks on the same quadrilateral can not be bumped.