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Name: _____ Date: October 17, 2019

Math:	Mod 2 Lesson 2 & 3 Dividing a Whole by a Fraction notes hmwk: wkshet
Social Studies:	- Sumerians - HW: SUMERIAN CULTURE
ELA:	Warm Up Finish Assessment Pronouns page 48
Science	① Brainstorm variables - Pg 13 (TAKE ALL NOTES) ② <u>Plan</u> (<u>ALL</u>) - P. 14 ③ Begin controlled experiment Pg 15 (finish Friday) NO HW
Computer Apps/ Technology	

Name: _____

Sumerian Culture

The belief systems, social structure, technology, and arts of the Sumerians reflected their civilization's triumph over its dry and harsh environment.

A Religion of Many Gods Like many peoples in the Fertile Crescent, the Sumerians believed that many different gods controlled the various forces in nature. The belief in more than one god is called polytheism (PAHL•ee•thee•ihz•uhm). Enlil, the god of storms and air, was among the most powerful gods. Sumerians feared him as "the raging flood that has no rival." Demons known as Ugallu protected humans from the evil demons who caused disease, misfortune, and misery.

Sumerians described their gods as doing many of the same things humans do—falling in love, having children, quarreling, and so on. Yet the Sumerians also believed that their gods were both immortal and all-powerful. Humans were nothing but their servants. At any moment, the mighty anger of the gods might strike, sending a fire, a flood, or an enemy to destroy a city. To keep the gods happy, the Sumerians built impressive ziggurats for them and offered rich sacrifices of animals, food, and wine.

Sumerians worked hard to earn the gods' protection in this life. Yet they expected little help from the gods after death. The Sumerians believed that the souls of the dead went to the "land of no return," a dismal, gloomy place between the earth's crust and the ancient sea. No joy awaited souls there. A passage in a Sumerian poem describes the fate of dead souls: "Dust is their fare and clay their food."

Some of the richest accounts of Mesopotamian myths and legends appear in a long poem called the *Epic of Gilgamesh*.

What type of religion did Sumerians have?

What were Sumerian gods like?

Life in Sumerian Society With civilization came the beginning of what we call social classes. Kings, landholders, and some priests made up the highest level in Sumerian society. Wealthy merchants ranked next. The vast majority of ordinary Sumerian people worked with their hands in fields and workshops. At the lowest level of Sumerian society were the slaves. Some slaves were foreigners who had been captured in war. Others were Sumerians who had been sold into slavery as children to pay the debts of their poor parents. Debt slaves could hope to eventually buy their freedom.

Social class affected the lives of both men and women. Sumerian women could work as merchants, farmers, or artisans. They could hold property in their own names. Women could also join the priesthood. Some upper-class women did learn to read and write, though Sumer's written records mention few female scribes. However, Sumerian women had more rights than women in many later civilizations.

Draw the Sumerian social hierarchy ~~here~~ on back

What was the status of Sumerian women versus Sumerian men?

Sumerian Science and Technology Historians believe that Sumerians invented the wheel, the sail, and the plow and that they were among the first to use bronze. Many new ideas and inventions arose from the Sumerians' practical needs.

- **Arithmetic and geometry** In order to erect city walls and buildings, plan irrigation systems, and survey flooded fields, Sumerians needed arithmetic and geometry. They developed a number system in base 60, from which stem the modern units for measuring time (60 seconds = 1 minute) and the 360 degrees of a circle.
- **Architectural innovations** Arches, columns, ramps, and the pyramid shaped the design of the ziggurat and permanently influenced Mesopotamian civilization.
- **Cuneiform** Sumerians created a system of writing. One of the first known maps was made on a clay tablet in about 2300 B.C. Other tablets contain some of the oldest written records of scientific investigations in the areas of astronomy, chemistry, and medicine.

List Sumerian inventions mentioned:

What was the most important Sumerian invention in your opinion? Why?

Focus Question: What variables affect the operation of an air trolley?

Think, Pair, Share:

Gage/size of rubber band

Number of winds

Direction of winds

Is the line tight?

Size of propeller

Slope of flightline

Mass of trolley (adding passengers)

Word Bank

motion: the act of changing position / place

Distance: the change between an initial position (start) and final position (end)

Initial: begin / start

final: end / last

position: an object's location at a given time

Reference point: a set point use for comparison

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Focus Question: What variables affect the operation of an air trolley?

Experimental Design

Part 1

Hypothesis: (A possible answer to a problem/question used as the basis for an experiment.)

When I change the number of winds from _____ to _____ I will see the distance of the air trolley increase or decrease to _____

Independent Variable: (The one variable being controlled or changed by the scientist in order to observe other changes in the system.)

Number of _____

How will you change the independent variable? _____

Dependent Variable: (The one variable being observed for data collection: THE RESULTS/OUTCOME)

Distance, in _____

Control Conditions: (how will you control other variables?)

Direction of propeller, same rubber band, same flight line, same system materials,

Part 2

Plan for experimental procedure:

1. Attach air trolley to flight line using the top straw; lead with propeller
2. Secure fishing line between chairs
3. Mark Reference point _____
4. Face front of air trolley and wind propeller clockwise, _____ times
5. Measure front to front _____
6. Record observations / data in the chart (page 15)

DIVIDING A WHOLE BY A FRACTION

We can divide whole numbers by fractions using similar methods.

BAR MODEL	$2 \div \frac{3}{4} = 2\frac{2}{3}$	$4 \div \frac{1}{2} = 8$
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Choose one model and solve the problems below.

<p>1. $3 \div \frac{5}{6} =$</p> <p style="text-align: right; color: red;">KCF</p>	<p>2. $4 \div \frac{2}{3} =$</p> <p style="text-align: right; color: red;">KCF</p>
<p>3. $3 \div \frac{1}{5} =$</p> <p style="text-align: right; color: red;">KCF</p>	<p>4. $2 \div \frac{2}{5} =$</p> <p style="text-align: right; color: red;">KCF</p>

REVIEW DIVIDING FRACTIONS

• Use the following steps to divide fractions.

1. Change each mixed number to an improper fraction.
2. Rewrite the first fraction. dividend
3. Change the division to X multiplication.
4. Find the reciprocal of the second fraction. divisor
5. Multiply.
6. Simplify.

ALGORITHM	5. $6 \div \frac{3}{4} =$ <i>KCF</i>	6. $4 \div \frac{6}{7} =$ <i>KCF</i>
	8	$\frac{14}{3}$ or $4\frac{2}{3}$

Roll a pair of dice, and find the sum of the two numbers showing. Solve that problem.

DICE ROLL	SOLVE	SOLUTION	DICE ROLL	SOLVE	SOLUTION
2	the reciprocal of $\frac{6}{9}$	$\frac{9}{6}$	8	$3 \div \frac{1}{6} =$	18
3	$6 \div \frac{3}{4} =$	8	9	$\frac{3}{4} \div 6 =$	$\frac{1}{8}$
4	$\frac{7}{8} \div 4 =$	$\frac{7}{32}$	10	the reciprocal of 7	$\frac{1}{7}$
5	the reciprocal of $3\frac{1}{3}$	$\frac{3}{10}$	11	$9 \div \frac{4}{5} =$	$11\frac{1}{4}$
6	$\frac{2}{3} \div 12 =$	$\frac{1}{18}$	12	$\frac{4}{5} \div 3 =$	$\frac{4}{15}$
7	$8 \div \frac{5}{6} =$	$9\frac{3}{5}$			

Summarize today's lesson:

DIVIDING A WHOLE BY A FRACTION

* Use *Model or Math Way* to solve the problems below.

1. $3 \div \frac{1}{4} =$

2. $4 \div \frac{3}{4} =$

3. $2 \div \frac{4}{5} =$

4. $6 \div \frac{1}{2} =$

Divide the fractions below using the algorithm.

5. $4 \div \frac{3}{8} =$	6. $8 \div \frac{4}{9} =$	7. $5 \div \frac{5}{7} =$
8. $12 \div \frac{5}{6} =$	9. $2 \div \frac{2}{3} =$	10. $6 \div \frac{4}{5} =$