SCHOLAR NAME _____

uplifteducation

Rising 6th Grade

2021 Summer Assignment

Math and Science

Rising 6th Grade Summer 2021
Math and Science

Dear Uplift Families:

Through the years many parents have asked what can be done over the summer to maintain skills and develop mathematical and scientific thinking. Uplift has created blended summer math and science assignments to help your scholar retain his/her skills and to provide valuable practice over the summer. You should feel free to discuss the work with your child. Discussions are an important way for scholars to remember and retain concepts. Scholars may enjoy working with peers or parents as they practice. Again, this assignment is simply an opportunity for your scholar to maintain skills.

The assignment and answer keys are uploaded on your scholar's math Schoology course page and can be downloaded and printed at your convenience. Hard copies of the assignments are also available through your scholar's math teacher or in the school office.

A few things to note:

- Our goal is to have scholars experience doing math and science over the summer.
- Teachers hope that everyone attempts the packet.
- Teachers will be collecting packets (complete or incomplete) at the beginning of the 21-22 school year.
- Scholars may get guidance from sibling, parent, etc. If a scholar does not know how to do a certain problem, check the answer and work backwards.
- Feel free to use extra paper if more space is needed to work the problems.

Summer Assignments Overview

Math and Science Packet

The practice in this summer packet addresses the following critical areas scholars learned while in 5th grade:

- Math: Numbers and Operations, Algebraic Reasoning, Geometry and Measurement
- Science: Organisms and Environments

The packet contains **3 assignments** that engage the scholars in a blend of math and science:

- Part 1: Interdependency
- Part 2: Food Webs
- Part 3: Environmental Changes

MATHia Online

In addition to the Summer Math/Science Assignments, we also want to provide your scholar with the opportunity to engage in online math skills practice through the use of an online platform called MATHia. Within this program scholars will continue to refine their skills with fraction and decimal operations, ratios and proportions, and geometry concepts. This online program supports scholars to work independently by providing help and hints along the way.

We suggest scholars **engage on the MATHia program about 45 – 60 mins each week during the month of June**. Scholars may access their MATHia accounts through their Uplift Classlink system throughout the month of June. The MATHia system will shut down July 1st to prepare for the 21-22 school year.

If you have any questions, please reach out to your campus teachers or leaders.

STAAR GRADE 5 MATHEMATICS REFERENCE MATERIALS

STAAR® State of Texas Assessments of Academic Readiness

PERIMETER

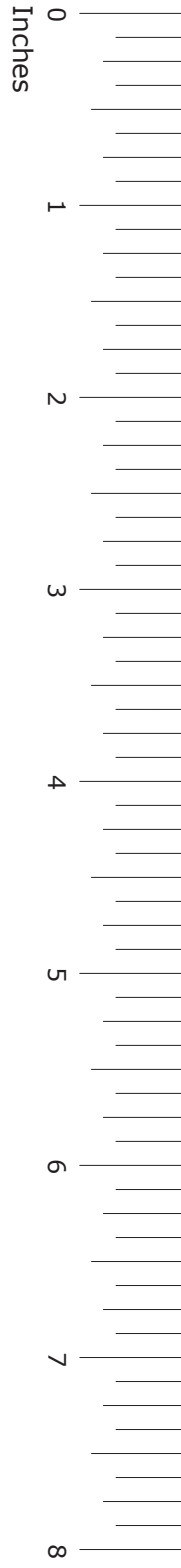
Square			$P = 4s$
Rectangle			$P = 2l + 2w$

AREA

Square			$A = s \times s$
Rectangle	$A = l \times w$	or	$A = bh$

VOLUME

Cube			$V = s \times s \times s$
Rectangular prism	$V = l \times w \times h$	or	$V = Bh$



STAAR GRADE 5 MATHEMATICS REFERENCE MATERIALS

LENGTH

Customary	Metric
1 mile (mi) = 1,760 yards (yd)	1 kilometer (km) = 1,000 meters (m)
1 yard (yd) = 3 feet (ft)	1 meter (m) = 100 centimeters (cm)
1 foot (ft) = 12 inches (in.)	1 centimeter (cm) = 10 millimeters (mm)

VOLUME AND CAPACITY

Customary	Metric
1 gallon (gal) = 4 quarts (qt)	1 liter (L) = 1,000 milliliters (mL)
1 quart (qt) = 2 pints (pt)	
1 pint (pt) = 2 cups (c)	
1 cup (c) = 8 fluid ounces (fl oz)	

WEIGHT AND MASS

Customary	Metric
1 ton (T) = 2,000 pounds (lb)	1 kilogram (kg) = 1,000 grams (g)
1 pound (lb) = 16 ounces (oz)	1 gram (g) = 1,000 milligrams (mg)

Math Connections

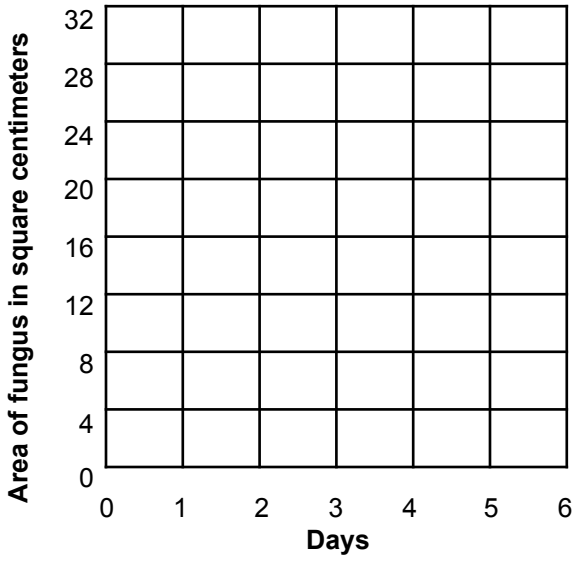
Name: _____ Date: _____

Organisms interact with both living and nonliving things to survive in their ecosystems.

Ariel tracks the growth of a certain fungus growing on a tree. The fungus needs the tree to live. Every day, she measures the area of the tree the fungus covers, and she records her results in the table below. Use her information to answer questions 1–5.

Day	1	2	3	4	5	6	7	8	9	10
Area of fungus (cm^2)	1	2	4	8	16	32				

1. What is the pattern for the area of growing fungus?
   Graph the data for days 1–6 on the coordinate plane below. Connect the points with a curved line.



1. What area will the fungus most likely cover on day 7? Write an expression to help you solve this problem.

2. What area will the fungus cover on days 8–10? Fill in the area on the chart.

3. What day will the fungus cover an area that is 4 times the area of day 6?
   _____

4. A violent storm occurs on day 10, and ¾ of the fungus is wiped out. How much area will the fungus cover now? _____ sq. cm.

Math Connections

Name: _____ Date: _____

Plants, herbivores, and carnivores rely on each other for survival. Plants make their own food from sunlight. In turn, herbivores eat the plants, and carnivores eat herbivores and other animals. Then we have omnivores, like you and me, who eat both plants and animals.

The tables below show the average numbers of plants, herbivores, and carnivores per square foot in four different states.

Average Number of Plants per Square Foot

State	Plants per sq. ft.
Texas	0.040
Arizona	0.003
Washington	0.096
New York	0.06

Average Number of Herbivores per Square Foot

State	Herbivores per sq. ft.
Texas	0.178
Arizona	0.013
Washington	0.806
New York	0.599

Average Number of Carnivores per Square Foot

State	Carnivores per sq. ft.
Texas	0.093
Arizona	0.009
Washington	0.621
New York	0.377

1. List the average number of plants per square foot in order from least to greatest by state:
   a. _____ c. _____
   b. _____ d. _____

2. Use estimation to see which state has about 3 times more herbivores than another state:

3. How many plants does Arizona have in an area of 1,000 square feet?
   _____

4. Based on your answer, do you think Arizona has many herbivores?
   _____

5. Does New York have enough plants to support the number of herbivores?
   _____
   Explain your answer.
   _____

6. Compare the total number of carnivores to the total number of herbivores in all states combined, using the symbol < , > , or = in the circle below:
   _____ ◯ _____

Math Connections

Name: _____ Date: _____

Living organisms, including humans, can change their environment. We can predict the effects of changes to the environment caused by organisms.

Insects can be a nuisance to people and plants. We use pesticides to control insect populations; however, when insect populations decrease and the chemicals contaminate water sources, many of the animals that rely on those insects and water sources decrease in population.

The data below shows the decrease in a bird population of 2,500 birds over an 8-year time period from the use of a pesticide.

Loss of Bird Population Due to Pesticide Use

Years of use	1	2	3	4	5	6	7	8
Total loss of population	88	176	264	352	440			

1. Write an equation that can be used to solve for the total population loss, *t,* in terms of the, *y*, years of use:

2. Fill in the table, using your results from the equation above.

3. What was the total loss after 11 years of use of the pesticide?
   _____

4. How many birds will be lost after 28 years?
   _____

5. Assuming no new birds were added to the population, how many birds are left?
   _____

6. If no birds are added to the population, after how many years of use of the pesticide will the bird population die out?
   _____