SATURN V HALL

GIFT SHOP

1. Find the price for a t-shirt, a cap and a NASA pin. Add and round to the nearest dollar to estimate the total cost for all three items. If you have $40 to spend on souvenirs, would you have enough to purchase all three items? Explain your response. [3.OA.8]

MERCURY PROJECT

2. How long was astronaut Alan B. Shepard's sub-orbital flight aboard the Mercury Redstone rocket? [3.MD.1]

_____ minutes _____ seconds

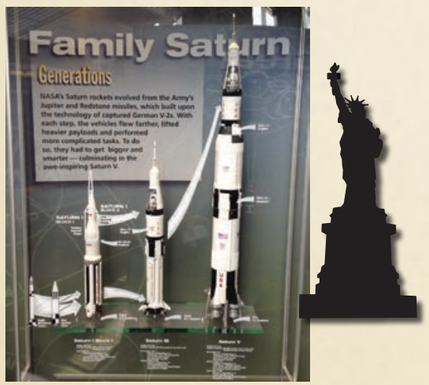
Round to the nearest minute. _____ minutes

a. If his launch time was 9:34 a.m., what time did he return to Earth?

FAMILY SATURN - GENERATIONS

3. What is the height of the Saturn V rocket? _____ feet

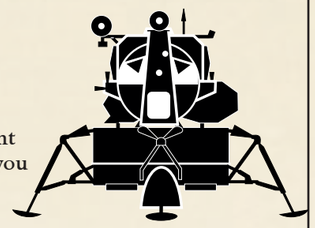
If the Statue of Liberty is 305 feet tall, how much taller is the Saturn V rocket? [3.NBT.2]



LUNAR MODULE

5. Which of the following polygons can you identify in the lunar module: square, rectangle, parallelogram, trapezoid and rhombus? Draw the shapes you find below. List common characteristics for the polygons you have drawn. [3.G.1]

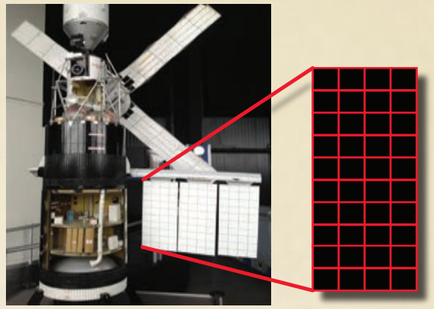
a. How is the trapezoid different from the other quadrilaterals you found? [3.G.1]



LUNAR ROCKS

6. The lunar rock in the Davidson Center was collected by astronauts Pete Conrad and Alan Bean during the Apollo 12 mission. Would you estimate the rock on display weighs 450 grams or 450 kilograms? [3.MD.2]

SKYLAB



7. On Skylab, solar cells are arranged in a 4 by 10 pattern to form each solar panel. How many solar cells are in one solar panel? [3.NBT.3]

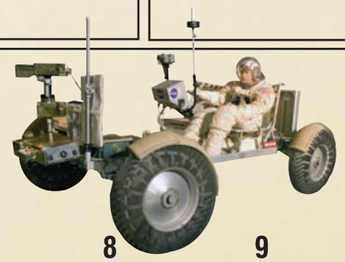
a. Write an equation using the distributive property to find the number of solar cells in all three solar panels. Solve. [3.OA.5]

b. Assume that each individual solar cell has an area of one square inch. By counting squares, the area of one solar panel is _____ square inches. [3.MD.6, 3.MD.5]

c. If each individual solar cell on the panel has an area of one square inch, find the total area of all three solar panels shown in the Skylab model at the Davidson Center. [3.MD.7]

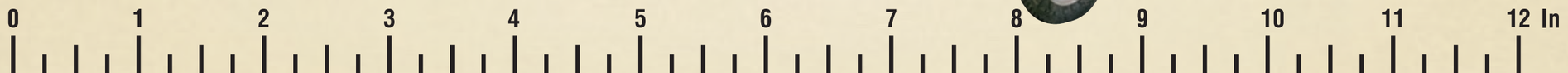
d. The perimeter of one solar panel is _____ inches. Draw a solar panel of a different size or shape that has the same perimeter as the one on Skylab. [3.MD.8, 3.OA.6]

WOODEN LUNAR ROVER MODEL



4. Use the ruler below to measure the length and width of a seat on the wooden Lunar Rover Model. [3.MD.4]

Length: _____ Width: _____



Math Exploration

Math Exploration Grade 3

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These skill-based activities correlate to nationally-accepted mathematics standards and are aligned with Common Core Standards as well as the Alabama College and Career Ready Standards.

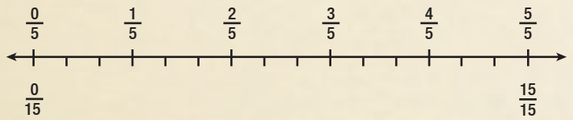
SPACE CAMP TRAINING CENTER

1. On May 28, 1959, monkeys Able and Baker rode in the Army-developed Jupiter nose cone for a distance of 1,700 miles. Read the information provided in photo to find out more about their journey.

a. They experienced weightlessness for _____ minutes.

b. If their journey lasted 15 minutes, what fraction of the time did they experience weightlessness? [3.NF.1]

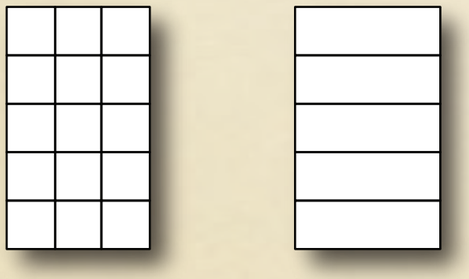
c. Use a number line to represent the fraction. [3.NF.2]



d. Use the number line to complete this sentence. [3.NF.3]

$\frac{9}{15} = \frac{?}{5}$

e. Use the visual fraction models to explain why the fractions are equivalent. [3.NF.3, 3.G.2]



SHUTTLE PARK

ROCKET ENGINES

1. There are four components of the shuttle stack: orbiter, external tank and two solid rocket boosters. What fraction of the shuttle stack holds the astronauts? [3.NF.1]

CENTAUR

2. Read the information provided in the photo to find out about the NASA Centaur G-Prime. [3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4, 3.OA.9]

a. The total thrust of the NASA Centaur G-Prime was _____. How many thousands are there in the total thrust? _____

b. How many Pratt & Whitney engines were used by the Centaur G-Prime?

c. Use the information you found to determine how many thousands of pounds of thrust were provided by each engine.

d. Use the above information to complete the table.

Engine(s)	Thrust (thousands of lbs)
1	
2	
	45
4	
	75

e. Identify the pattern in the table.

f. What is the rule for determining output in the table?

ROCKET PARK

SATURN I [3.OA.1, 3.OA.3, 3.OA.7]

1. How many H-1 engines do you see as you walk beneath the Saturn I Rocket?

a. How many H-1 engines would be needed to build six Saturn I rockets? Solve using a multiplication sentence.

b. If there were 56 H-1 engines, how many Saturn I rockets could be built? Write a division sentence and solve.

c. What multiplication fact can you use to solve this problem?

2. Complete this table to compare the lengths of the following rockets and missiles in Rocket Park. Round the lengths to the nearest foot and to the nearest tens place. [3.NBT.1]

Rockets and Missiles	Actual Length (feet)	Length Rounded to the nearest foot	Length Rounded to the nearest ten feet
NASA Saturn I			
U.S. Army Jupiter			
U.S. Army Juno II			
U.S. Army Redstone			
U.S. Army Jupiter–C			
U.S. Army Mercury - Redstone			
NASA Atlas			

a. How much greater is the NASA Saturn I length than the the U.S. Army Jupiter length? [3.NBT.2, 3.MD.3]

b. Use the information in the table to create a bar graph of the rocket lengths rounded to the nearest ten feet. [3.MD.3]