Express measurements of a large unit in terms of a smaller unit. Generate a conversion table.

CCSS.MATH.CONTENT.4.MD.A.1 | US_EN_04_MAT_C31_WS_m1

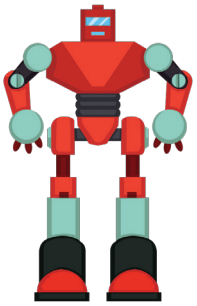
Matty, the founder of Mathel Toy Factory, is impressed with your math skills. He needs your help in selecting and converting different units of measurements for producing a new set of toys.

1 Water is used at various stages of manufacturing toys at the Mathel Toy Factory. Matty wants to know all the units that can be used to measure the capacity of water. Color all the correct boxes blue from the options given below.

Pounds (lb) ☐ Gallons (gal) ☐ Quarts (qt) ☐ Pints (pt) ☐

2 Matty wants to measure the weight of a toy manufactured at his factory. Which of the given units are appropriate to measure the weight of the toy? Check ☑ the correct box.

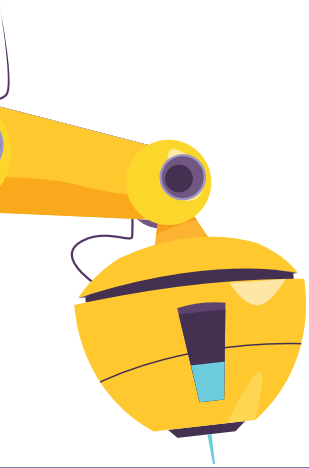
☐ Tons ☐ Ounces (oz) ☐ Liters (L)

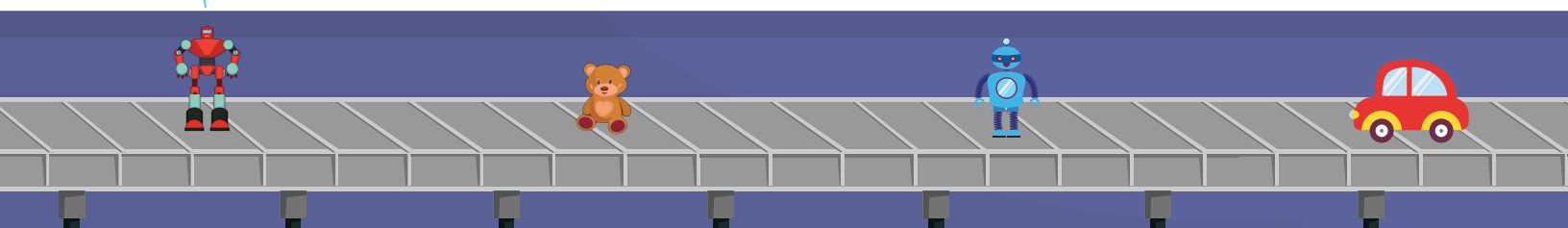


3 The toys are packed in boxes of different sizes. Matty has to convert them into smaller units. Match the following sizes given in feet with their equal values when converted to inches:

Hint: 1 ft = 12 in

Size (in feet)	Size (in inches)
$\frac{1}{2}$ ●	● 24
2 ●	● 36
3 ●	● 6





Express measurements of a large unit in terms of a smaller unit. Generate a conversion table.

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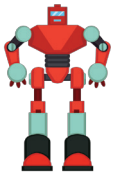
4 Matty wants to make jump ropes in his factory. He has to choose an appropriate unit to measure the jump rope. Circle the unit(s) suitable to measure a jump rope.

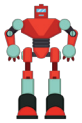
Yard Inch Foot Mile

5 The weights of different toys manufactured at the factory are given below. There is an error in conversion from pounds to ounces. Matty needs your help in identifying it.

Hint: 1 lb = 16 oz

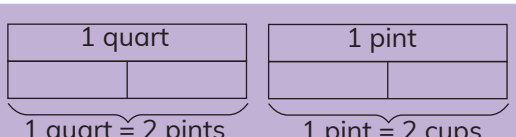
			
Weight (in lb):	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{16}$
Weight (in oz):	8	10	7

Circle the toy that has a conversion error:

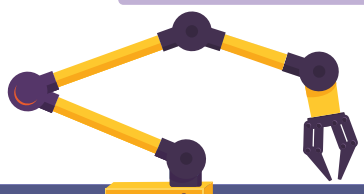

6 A barrel used at the factory has a capacity of 9 quarts. Matty wants your help to calculate the number of cups of water the barrel can hold. Write your answer in the boxes given.

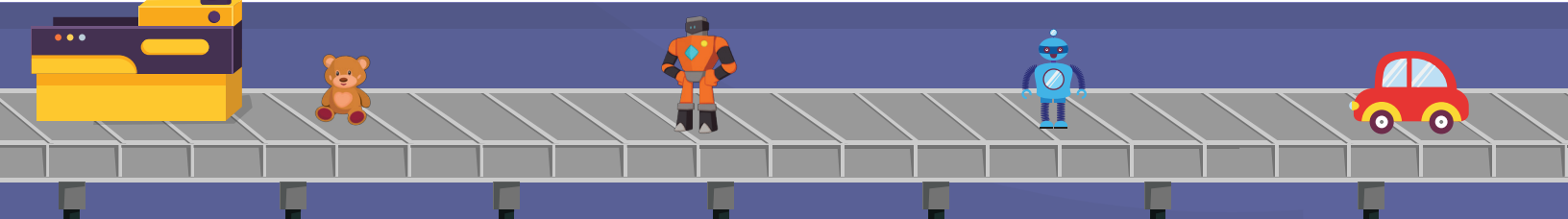
Hint :



1 quart = ☐ cups

9 quarts = 9 x ☐ = ☐☐ cups





Express measurements of a large unit in terms of a smaller unit. Generate a conversion table.

CCSS.MATH.CONTENT.4.MD.A.1 | US_EN_04_MAT_C31_WS_m1

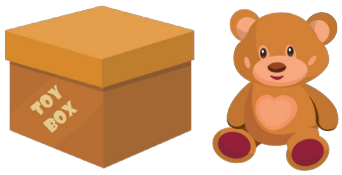
Matty needs your help in calculating inventories with different units of measurement. Hop in and help him complete his inventory list.

1 1 oz of foam pellets is used to pack one stuffed toy. Matty has 6 lbs of foam pellets with him. How many more ounces of foam pellets does he need to pack 100 stuffed toys? Write your answer in the boxes given below.

Hint: 1 lb = 16 oz

Amount of foam pellets required to make 100 stuffed toys = ☐☐☐ oz

Amount of foam pellets Matty has = 6 lb = ☐☐ oz

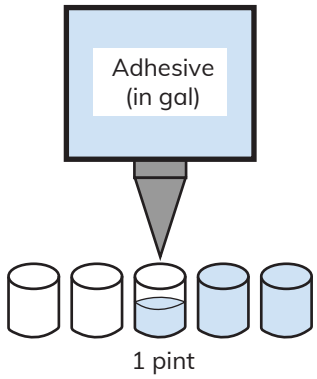


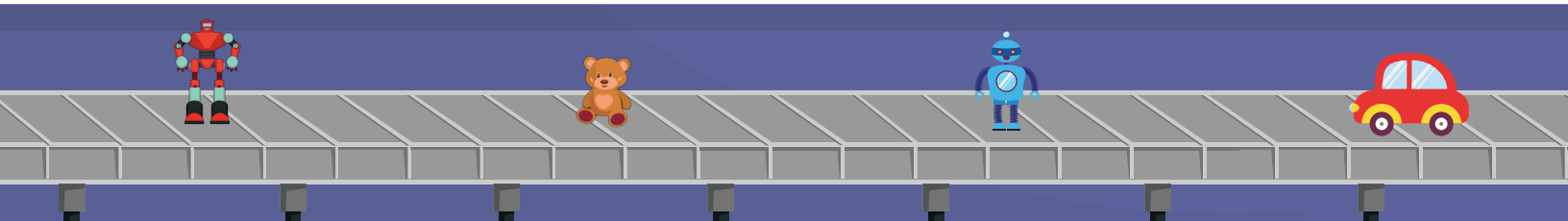
Extra foam pellets required = ☐ oz

2 Matty needs to purchase few pints of adhesive for the factory. He has the requirements written down in gallons whereas the shop sells it in pints. Match each of his measurements to the correct quantity from the shop.

Hint: 1 gal = 8 pints

Gallon	Pint
2 ●	● 48
4 ●	● 16
6 ●	● 32





Express measurements of a large unit in terms of a smaller unit. Generate a conversion table.

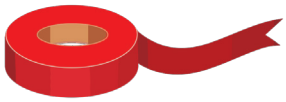
CCSS.MATH.CONTENT.4.MD.A.1 | US_EN_04_MAT_C31_WS_m1

3 Matty has a ribbon roll that has a length of 8 yd. From the roll, he cuts eighteen pieces of ribbon, each of length, 1 ft. What is the length of ribbon roll left? Write your answers in the boxes given below.

Hint: 1 yard = 3 feet.

8 yards = ☐☐ ft

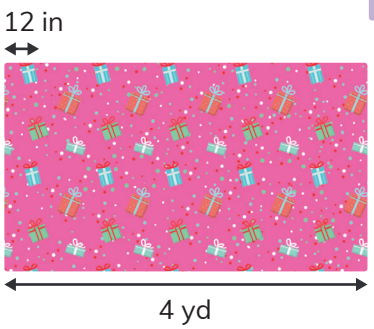
Total length of all the cut pieces = ☐☐ ft



Length of the ribbon left = ☐ ft

4 The factory has a wrapping sheet of length 4 yd, out of which 12 inches is damaged. Find the length of the left over sheet. Write your answer in the boxes given below.

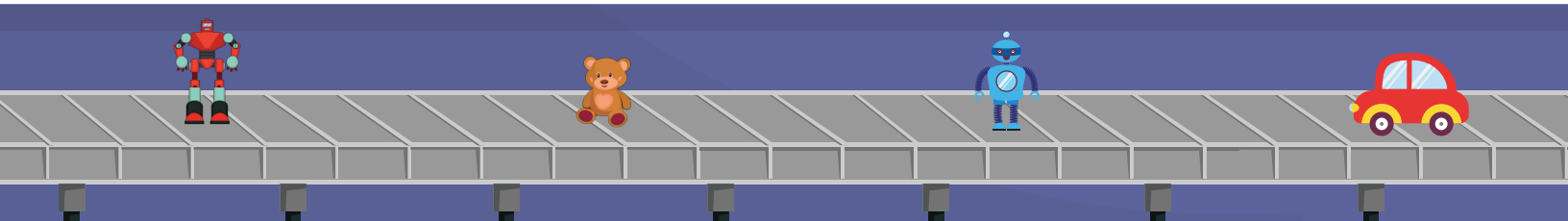
Hint: 1 yard = 3 feet; 1 foot = 12 inches.



1 yard = ☐☐ in

4 yards = ☐☐☐ in

Total length of leftover sheet = ☐☐☐ in



Express measurements of a large unit in terms of a smaller unit. Generate a conversion table.

CCSS.MATH.CONTENT.4.MD.A.1 | US_EN_04_MAT_C31_WS_m1

Matty wants you to design a stacking toy and a box for the same. Help Matty with the designing.

First, you need a unit to measure the dimensions of the toy. Check ☑ the correct option.

☐ Feet (ft) ☐ Mile (mi) ☐ Yard (yd)

Select the height you want for the toy. Circle your choice. Convert the selected choice to inches. Write your answer in the boxes given below.

Hint: 1 ft = 12 in

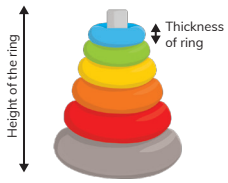
$1\frac{1}{2}$ ft | 1 ft | $\frac{1}{2}$ ft

Height of the toy = ☐☐ in

The thickness of each ring is 2 inches. How many rings would you like the toy to have? Remember the rings will be stacked on top of each other, so the total thickness of the rings can't be more than the height of the toy.

Number of rings that you want = ☐ rings

Total thickness of the rings = ☐☐ in



Lastly, you have to assign weight to the 4 largest rings. The weight of each ring should be 4 oz less than the ring below it. First one is done for you.

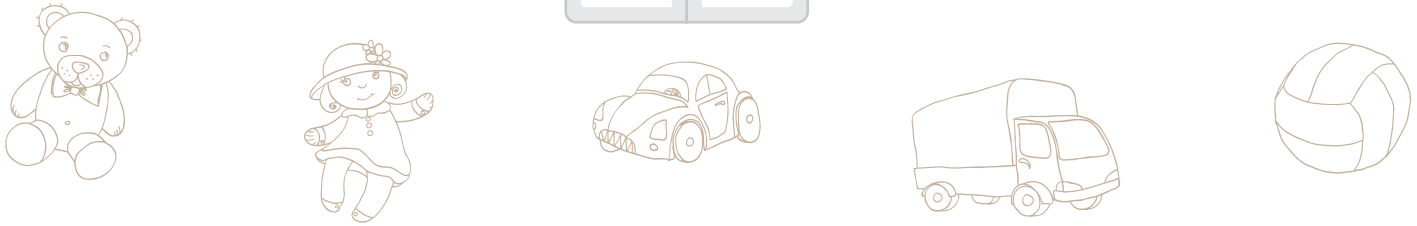
Ring 1: 20 oz

Ring 2: ☐☐ oz

Ring 3: ☐☐ oz

Ring 4: ☐ oz

Total weight of the four rings = ☐☐ oz



Express measurements of a large unit in terms of a smaller unit. Generate a conversion table.

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Now that the toy is ready, prepare a packaging box for the toy. The height of the box must be $\frac{1}{4}$ ft taller than the height of the toy that you chose on the previous page. Write your answer in the boxes given below.

Height of the toy (from the previous page) ☐ ft

Height of the box = ☐ $\frac{\square}{\square}$ + $\frac{\square}{\square}$ = ☐ $\frac{\square}{\square}$ ft

Height of the toy (in ft)

Height of the box (1 ft = 12 in) = ☐☐ in

Length of the box must be 6 inches taller than the width of the largest ring. Width of the largest ring is 12 inches. Calculate the length of the box. Write your answer in the boxes given below.

Length of the box = ☐☐ + ☐ = ☐☐ in

Width of the largest ring

The weight of the box is 4 lb. Convert this weight to ounces. Check ☑ the correct box from the options given below.

Hint: 1 lb = 16 oz

☐ 72 oz ☐ 56 oz ☐ 64 oz

Wonderful! The toy and the box are now ready.