Name:

Pumpkin Pairs

Your Challenge

➤ **A local produce stand has 8 pumpkins on display. The diameters of the pumpkins, in inches, are given in the table.**

Pumpkin	Diameter (inches)
A	$5\frac{1}{2}$
B	$16\frac{1}{2}$
C	$8\frac{1}{4}$
D	$41\frac{1}{4}$
E	$13\frac{3}{4}$
F	3
G	$22\frac{3}{4}$
H	$10\frac{1}{2}$

1 Use the list of pumpkins to make 4 pairs. For each pair of pumpkins, determine how many times longer the larger pumpkin's diameter is than the smaller pumpkin's diameter. Show your work.

Possible answer:

Pair 1: A and B

$$16\frac{1}{2} \div 5\frac{1}{2} = \frac{33}{2} \div \frac{11}{2} = \frac{33}{2} \times \frac{2}{11} = \frac{66}{22} = 3$$

The diameter of pumpkin B is 3 times longer than the diameter of pumpkin A.

Pair 2: C and D

$$41\frac{1}{4} \div 8\frac{1}{4} = \frac{165}{4} \div \frac{33}{4} = \frac{165}{4} \times \frac{4}{33} = \frac{660}{132} = 5$$

The diameter of pumpkin D is 5 times longer than the diameter of pumpkin C.

Pair 3: E and F

$$13\frac{3}{4} \div 3 = \frac{55}{4} \div \frac{3}{1} = \frac{55}{4} \times \frac{1}{3} = \frac{55}{12} = 4\frac{7}{12}$$

The diameter of pumpkin E is $4\frac{7}{12}$ times longer than the diameter of pumpkin F.

Pair 4: G and H

$$22\frac{3}{4} \div 10\frac{1}{2} = \frac{91}{4} \div \frac{21}{2} = \frac{91}{4} \times \frac{2}{21} = \frac{182}{84} = 2\frac{1}{6}$$

The diameter of pumpkin G is $2\frac{1}{6}$ times longer than the diameter of pumpkin H.

Pumpkin Pairs

2 The owner of the produce stand would like to arrange the display of pumpkins in pairs so that one of the pumpkin's diameters is about twice as long as the other's. What is one possible way to arrange the pumpkins? Show your work.

Answers will vary. Possible student work and answers shown.

Pair 1: A and F

$$5\frac{1}{2} \div 3 = \frac{11}{2} \div \frac{3}{1} = \frac{11}{2} \times \frac{1}{3} = \frac{11}{6} = 1\frac{5}{6}$$

The diameter of pumpkin A is $1\frac{5}{6}$ times longer than the diameter of pumpkin F.

Pair 2: B and C

$$16\frac{1}{2} \div 8\frac{1}{4} = \frac{33}{2} \div \frac{33}{4} = \frac{33}{2} \times \frac{4}{33} = 2$$

The diameter of pumpkin B is 2 times longer than the diameter of pumpkin C.

Pair 3: D and E

$$41\frac{1}{4} \div 13\frac{3}{4} = \frac{165}{4} \div \frac{55}{4} = \frac{165}{4} \times \frac{4}{55} = 3$$

The diameter of pumpkin D is 3 times longer than the diameter of pumpkin E.

Pair 4: G and H

$$22\frac{3}{4} \div 10\frac{1}{2} = \frac{91}{4} \div \frac{21}{2} = \frac{91}{4} \times \frac{2}{21} = \frac{182}{84} = 2\frac{1}{6}$$

The diameter of pumpkin G is $2\frac{1}{6}$ times longer than the diameter of pumpkin H.