**Grade 6 Math  
Unit 7: Fractions**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson 1: Representing Improper Fractions**

In this unit, we will be examining three different types of fractions: proper fractions, improper fractions and mixed factions (mixed numbers). First, recall the different parts of a fraction shown in the image below.

  
SOURCE: <https://image.slidesharecdn.com/kungfumathp4-slide6mixedfractionspdf-130111014234-phpapp02/95/kungfu-math-p4-slide6-mixed-fractionspdf-6-638.jpg?cb=1357868589>

A **proper fraction** is any fraction in which the numerator is smaller than the denominator. Therefore, the number is less than 1. An example is

An **improper fraction** is any fraction in which the numerator is larger than the denominator. Therefore, the number is larger than 1. An example is

Another way of representing a fraction that is larger than 1 is a **mixed fraction** (also called a mixed number). A mixed fraction is a combination of a whole number and proper fraction. An example is

1) Represent the following proper fractions using the models providing.

A)

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

B)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |

C)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

2) Draw your own models to represent the following proper fractions.

A)

B)

C)

3) Represent the following improper fractions using the models providing.

A)

B)

C)

4) Draw your own models to represent the following improper fractions.

A)

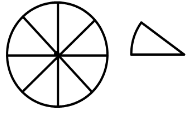
B)

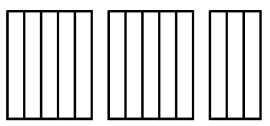
C)

5) A dime ($.10) is of a dollar. Write the following amounts as proper or improper fractions.

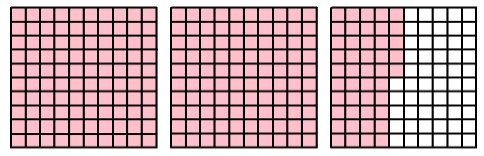
|  |  |
| --- | --- |
| A) $.90 |  |
| B) $1.50 |  |
| C) $2.10 |  |
| D) $.60 |  |

6) Write the following representations as improper fractions.   
  
A)



B)   


C)



**Lesson 2: Representing Mixed Numbers**

A mixed number is a combination of a whole number and a proper fraction. Mixed numbers are a different way of writing improper fractions. For example, the following image could be represented as either or.



1) Write the following representations as mixed numbers.

A)

B)

C)

D)

2) Draw your own models to represent the following mixed number.

A)

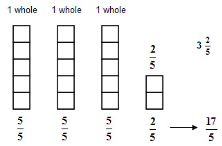
B)

C)

D)

**Lesson 3: Expressing improper fractions as mixed numbers (and vice versa)**

The diagram below demonstrates how both improper fractions and mixed numbers can be used to express the same fraction. In this case, either and could be used to express this diagram as a fraction.

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1) Express the following improper fractions as mixed numbers.

|  |  |
| --- | --- |
| A) |  |
| B) |  |
| C) |  |

|  |  |
| --- | --- |
| D) |  |
| E) |  |
| F) |  |

2) Express the following mixed numbers as improper fractions.

|  |  |
| --- | --- |
| A) |  |
| B) |  |
| C) |  |
| D) |  |
| E) |  |
| F) |  |

3) Find the matching improper fractions and mixed numbers in the chart below. Assign the same number to the matching fractions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Lesson 4: Putting fractions on a number line**

Number lines are a helpful tool for comparing numbers, including fractions. Oftentimes, only whole numbers are shown on a number line. In order to determine the scale (ex. ¼, ½, etc.), you need to count the space between each whole number. For example, if there are four spaces between each whole number, the scale is ¼. Be careful to count the spaces, **not** the vertical lines.

In order to put fractions on a number line, you must first ensure that all numbers greater than 1 are represented the same way (as either mixed numbers or improper fractions). The choice is yours.

1) Label the following number lines, then put the fractions on the line.

A) , , , ,



B) , , , ,



C) , , , , 3



2) Place the following fractions on the number line provided.

A) 1, , , , ,



B) , , , , ,



C) 6, , , , ,



**Lesson 5: Problem-solving with fractions**

1. Homer eats 9 half-donuts. How do you know that he will need between four and five donuts?

|  |
| --- |
|  |

2. Ms. Vaters is ordering a pizza. She tells Ms. Hann that she ordered cheese, pepperoni, vegetarian and meat lovers. Is this possible? Explain why or why not using **words** and **numbers**.

|  |
| --- |
|  |

3. Mr. Field is test-driving seven new vehicles. He drives each car of a kilometre. Represent how far he drove in total using **a number line**, and as a **mixed number** and an **improper fraction.**

|  |
| --- |
|  |

4. Oh no! Blake and Julia are in another huge fight! Blake says that the improper fraction is greater than 5. Julia says that is less than 5. Determine who is correct using **words** and **numbers**.

|  |
| --- |
|  |