



# ReadyMade™ Fractions 1

correlated to

## Texas' Essential Knowledge and Skills for Mathematics (TEKS)

### §111.14. Mathematics, Grade 2.

#### Subchapter A: Elementary<sup>1</sup>

(b) Knowledge and skills.

**(2) Number, operation, and quantitative reasoning. The student uses fraction words to name parts of whole objects or sets of objects. The student is expected to:**

(A) name fractional parts of a whole object (not to exceed twelfths) when given a concrete representation

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

---

<sup>1</sup> Statutory Authority: The provisions of this Subchapter A issued under the Texas Education Code, §28.002, unless otherwise noted. §111.11. Implementation of Texas Essential Knowledge and Skills for Mathematics, Grades K-5. The provisions of this subchapter shall be implemented by school districts beginning September 1, 1998, and at that time shall supersede §75.27(a)-(f) of this title (relating to Mathematics).



Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

(B) name fractional parts of a set of objects (not to exceed twelfths) when given a concrete representation

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.



(5) Patterns, relationships, and algebraic thinking. The student uses patterns in numbers and operations. The student is expected to:

(C) use patterns to develop strategies to remember basic addition facts

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

**(9) Measurement. The student recognizes and uses models that approximate standard units (metric and customary) of length, weight, capacity, and time. The student is expected to:**

(A) identify concrete models that approximate standard units of length, capacity, and weight

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

(B) measure length, capacity, and weight using concrete models that approximate standard units

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.



Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

(11) Probability and statistics. The student organizes data to make it useful for interpreting information. The student is expected to:

(A) construct picture graphs and bar-type graphs

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

(B) draw conclusions and answer questions based on picture graphs and bar-type graphs



Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

(12) Underlying processes and mathematical tools. The student applies Grade 2 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:

(A) identify the mathematics in everyday situations

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

(D) use tools such as real objects, manipulatives, and technology to solve problems

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a



set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to



make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They



will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right.



Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.

(13) Underlying processes and mathematical tools. The student communicates about Grade 2 mathematics using informal language. The student is expected to:

(A) explain and record observations using objects, words, pictures, numbers, and technology

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.



Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.



Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).



Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.

(B) relate informal language to mathematical language and symbols

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.



Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each



object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has



been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.

**(14) Underlying processes and mathematical tools. The student uses logical reasoning to make sense of his or her world. The student is expected to reason and support his or her thinking using objects, words, pictures, numbers, and technology.**

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.



Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure



each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.



Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.



## §111.15. Mathematics, Grade 3.

### (b) Knowledge and skills.

**(2) Number, operation, and quantitative reasoning. The student uses fraction names and symbols to describe fractional parts of whole objects or sets of objects. The student is expected to:**

#### (A) construct concrete models of fractions

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.



Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.



Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

**(B) compare fractional parts of whole objects or sets of objects in a problem situation using concrete models**

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

**(C) use fraction names and symbols to describe fractional parts of whole objects or sets of objects with denominators of 12 or less**

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of



items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to



make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They



will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right.



Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.

(D) construct concrete models of equivalent fractions for fractional parts of whole objects

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

(11) Measurement. The student selects and uses appropriate units and procedures to measure length and area. The student is expected to:

(A) estimate and measure lengths using standard units such as inch, foot, yard, centimeter, decimeter, and meter

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into



fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

(13) Measurement. The student applies measurement concepts. The student is expected to measure to solve problems involving length, area, temperature, and time.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

(15) Underlying processes and mathematical tools. The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:



(A) identify the mathematics in everyday situations

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

(C) select or develop an appropriate problem-solving strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.



Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.



Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.



Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.

(D) use tools such as real objects, manipulatives, and technology to solve problems



Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.



Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).



Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on



the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.

(16) Underlying processes and mathematical tools. The student communicates about Grade 3 mathematics using informal language. The student is expected to:

(B) relate informal language to mathematical language and symbols

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.



Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.



Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the



smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.



## §111.16. Mathematics, Grade 4.

### (b) Knowledge and skills.

(2) Number, operation, and quantitative reasoning. The student describes and compares fractional parts of whole objects or sets of objects. The student is expected to:

#### (A) generate equivalent fractions using concrete and pictorial models

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

#### (B) model fraction quantities greater than one using concrete materials and pictures



Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

(C) compare and order fractions using concrete and pictorial models

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).



Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

(D) relate decimals to fractions that name tenths and hundredths using models

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into



fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

(12) Measurement. The student applies measurement concepts. The student is expected to measure to solve problems involving length, including perimeter, time, temperature, and area.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

(13) Probability and statistics. The student solves problems by collecting, organizing, displaying, and interpreting sets of data. The student is

(C) interpret bar graphs

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the



total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

(14) Underlying processes and mathematical tools. The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:

(A) identify the mathematics in everyday situations

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

(B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.



Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

(D) use tools such as real objects, manipulatives, and technology to solve problems

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.

Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical



symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.

Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.



Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the



smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.

(15) Underlying processes and mathematical tools. The student communicates about Grade 4 mathematics using informal language. The student is expected to:

(B) relate informal language to mathematical language and symbols

Parts of a Set: Level 1 – Using a Fraction Bar. In this activity, students will use a fraction bar to represent the number of circles in a set that are black. The denominator represents the total number of items in the set. The numerator indicates the number of black circles. Sets contain 5 to 12 objects.

Parts of a Set: Level 2 – Creating a Fraction Bar. In this activity, students create a fraction bar with a denominator that represents the total number of items in the set. Then they will change the numerator to indicate the number of black circles in the set. Sets contain 5 to 12 objects.



Parts of a Set: Level 3 – Two Fraction Bars. In this activity, students create two fraction bars, each with a denominator that represents the total number of items in a set. One of the numerators indicates the number of black circles in the set; the other shows the number of green circles. Sets contain 4 to 16 objects.

Parts of a Set: Level 4 – Creating Sets and Fraction Bars. In this activity, students insert a specific number of green and black circles on the page and then create a fraction bar to show the number of black circles in the set. Sets contain 4 to 16 objects.

Parts of a Set: Level 5 – Word Problems. In this activity, students will read questions about sets of objects. Then they will create a fraction bar to answer the question about the items in the set.

Equivalent Fractions: Level 1 – Matching. In this activity, students will be matching fraction pictures of brownies with numerical symbols. Students will be working with halves, thirds, quarters, sixths, and eighths.

Equivalent Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be given one fraction bar and asked to create a different but equivalent fraction bar. Students will be working with thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 3 – Four Fractions Bar. In this activity, students will be given one fraction bar and asked to create three different but equivalent fraction bars. Students will be given fraction bars showing thirds, fourths, fifths, sixths, ninths, twelfths, and twentieths.

Equivalent Fractions: Level 4 – Fraction Symbols and Fraction Bars. In this activity, students will be given a fraction symbol and asked to make a fraction bar that is different from but equivalent to symbols showing thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.

Equivalent Fractions: Level 5 – Lowest Common Denominator. In this activity, students will create a fraction bar that represents the object pictured on the page. They will then create an equivalent fraction with the lowest common denominator.



Number Line Fractions: Level 1- Measuring to the Nearest Fourth. In this activity, students will be using a number line divided into fourths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest fourth.

Number Line Fractions: Level 2- Measuring to the Nearest Tenth. In this activity, students will be using a number line divided into tenths. They will be given a series of objects and asked to measure each object along the number line, giving their answer to the nearest tenth.

Number Line Fractions: Level 3 - Comparing Tenths and Fourths. In this activity, students will use two number lines, one divided into fourths and one divided into tenths. They are asked to measure each object along both number lines, decide which number line gives a more accurate measurement, and record that answer.

Number Line Fractions: Level 4 – Addition and Subtraction. In this activity, students will use a number line to help them visualize and understand addition and subtraction of fractions.

Number Line Fractions: Level 5 – Reading Number Lines. In this activity, students will determine into how many fractional parts a number line has been divided. Then they will report the location of an animal on that number line as a fraction.

Comparing Fractions: Level 1 – Using Shapes. In this activity, students will be comparing fractions to decide if one fraction is greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) a second fraction. Each fraction is expressed as a numerical symbol and as a picture (a circle divided into sections).

Comparing Fractions: Level 2 – Using a Comparison Bar. In this activity, students will be comparing fraction bars to decide whether a fraction is greater than, less than, or equal to a second fraction. They will verify their answer using a comparison bar. Each fraction is expressed as a numerical symbol and as a fraction bar.

Comparing Fractions: Level 3 – Create Fraction Bars. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.



Comparing Fractions: Level 4 – Words and Symbols. In this activity, students will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will create fraction bars and use comparison bars to show their thinking and verify their answers.

Comparing Fractions: Level 5 – Word Problems. In this activity, students will read a series of word problems. The fractions in the word problems include both parts of a whole and parts of a set. They will be deciding if one fraction is greater than, less than, or equal to a second fraction. They will use on-screen manipulatives to show their thinking and verify their answers.

Sorting Fractions: Level 1 – Smallest to Largest Fraction Pictures. In this activity, students will be asked to sort pictures of food that has been divided into fractions. They will move the pan or dish with the smallest fraction to the left and the pan or dish with the largest fraction to the right, matching each to fraction symbols on the page.

Sorting Fractions: Level 2 – Fraction Bars. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to fifths).

Sorting Fractions: Level 3 – Different Denominators. In this activity, students will be asked to sort fraction bars from the smallest on the left to the largest fraction bar on the right. Problems include fractions with different denominators (from halves to twenty-fifths).

Sorting Fractions: Level 4 – Fraction Symbols. In this activity, students will be asked to sort fraction symbols, from the smallest on the left to the largest fraction symbol on the right. Fractions will usually have different denominators (from halves to twelfths).

Sorting Fractions: Level 5 – Pictures and Fraction Bars. In this activity, students will be asked to sort fraction pictures, from the smallest on the left to the largest fraction pictures on the right. Fractions will usually have different denominators (from thirds to twelfths). Students are encouraged to create fraction bars to check their work.