Title: Fishin' For Fractions

Brief Overview:

Students will explore the concepts of comparing and ordering fractions. *It would be best, but not necessary, for students to have an understanding of equivalent fractions, least common denominator, and greatest common factor before beginning these lessons.* During these lessons students will use benchmarks in order to identify fractions as being near zero, one half, or one. They will also use models, pictures, and/or the least common denominator to compare and order fractions on a number line and without one. By the end of the lessons students will be able to apply these fractions skills to a real-life situation while using problem solving skills. The end of unit assessment will show student's individual understanding for comparing and ordering fractions.

NCTM Content Standard/National Science Education Standard:

Number and Operations
Representation
Reasoning
Communication
Problem Solving

Grade/Level:

5th Grade *(could be modified for grades 3-4)*

Duration/Length: 4 Days

3 days-60 minutes each day
1 day for assessment *(may not take a whole 60 minutes)*

Student Outcomes:

Students will:

- Students will use benchmarks in order to identify fractions as being near zero, one half, or one. (Day 1)
- Students will use models, pictures, and/or the least common denominator in order to compare and order fractions. (Day 2 and 3)

Materials and Resources:

Day 1

- *Number Line Warm-up* Student Resource Sheet 1 (one per student)/Answer Key Teacher Resource Sheet 1
- *Observational Checklist day 1* Teacher Resource Sheet 4
- *Which Ocean Number Line* Student Resource Sheet 2 (one per pair)/Answer Key Teacher Resource Sheet 2
- *Fish Fraction Cards* Student Resource Sheet 3 (one per pair)
- Rainbow Fraction Tiles (one set per pair)
- Clothesline
- Tape
- Scissors
- *Fish Fraction Bars* Student Resource Sheet 4 (one per student)
- *Fish Bowl* Student Resource Sheet 5 (one per student)/Answer Key Teacher Resource Sheet 3
- *Where is your bowl* Student Resource Sheet 6 (extension)
- *Benchmark Exit Ticket* Student Resource Sheet 7 (one per student)/Answer Key Teacher Resource Sheet 5

Day 2

- *The Three Oceans Warm-up* Student Resource Sheet 8 (one per student)/Answer Key Teacher Resource Sheet 7
- *Observation Teacher Checklist day 2* Teacher Resource Sheet 11
- *Making and Comparing Fractions* Student Resource Sheet 9 (one per pair)
- 2 dice/number cubes (per pair)
- Rainbow fraction tiles (one set per pair)
- Clothesline
- *Fishing Boats* Teacher Resource Sheet 8 (one copy of each boat)
- *Fish Fraction Card III* Teacher Resource Sheet 9 (one fish per student)
- Goldfish/Swedish Fish (handful per student)
- Index cards (one per student)
- Markers/Crayons
- *Beware Fishing Boats Ahead* Student Resource Sheet 10 (extension)
- *Missing Fraction Number Sentence* Student Resource Sheet 11 (one per student)/Answer Key Teacher Resource Sheet 12

Day 3

- *Teacher Observation Checklist day 3* Teacher Resource Sheet 16
- *Which Numbers* Student Resource Sheet 12 (one per student)/Answer Key Teacher Resource Sheet 13
- *A Fishy Problem* Student Resource Sheet 13 (one per student)/Answer Key Teacher Resource Sheet 14
- Goldfish/Swedish Fish (one handful of each per pair)
- Fish bowl/container (one per pair)

- *Waterman Wes* Student Resource Sheet 14/15 (one per student)/Answer Key Teacher Resource Sheet 15
- Markers/Crayons
- Exit ticket-*Comparing Fractions BCR* Student Resource Sheet 16 (one per student)/Answer Key Teacher Resource Sheet 17

Development/Procedures:

Lesson 1- *Fraction Benchmarks*

Preassessment – *Number Line Warm-Up (Student Resource Sheet 1)*

- Give each student a copy of the worksheet.
- Instruct students to write a fraction that represents the amount of each number line that is shaded.
- Allow students 5 minutes to individually complete the assignment. Reassure students that you do not expect them to know the answer to each problem. They will have the opportunity to fix or fill in the answers as we review the worksheet later.
- Walk around to observe the students' progress, using the observation checklist for day1 (Teacher Resource Sheet 4). *This will be used 3 different times throughout the lesson.* Look for students who easily complete each problem correctly and those that are struggling. This observation will be used to pair the students for the next activity. *(Mixed ability grouping.)*
- Review the answers as a class. Ask for student volunteers to share answers and give justification for their reasoning. Answer Key can be found on Teacher Resource Sheet 1.

Launch – *Which Ocean? (Student Resource Sheet 2 and Student Resource Sheet 3)*

- Pair students based on observations from pre-assessment. *(Mixed ability pairs)*
- Give each pair of students a copy of "Which Ocean Number Line" (Student Resource Sheet 2), "Fish Fraction Cards" (Student Resource Sheet 3), and a set of rainbow fraction tiles.
- Instruct students to sort the fish into their correct ocean by using the given benchmarks of 0, ½ and 1. *(Students do not need to choose an exact location on the number line, just place the fish in an ocean based on their value of greater than or less than ½.)* Students may use the rainbow fraction tiles to help them understand the size of the fractions by comparing them to ½.
- Allow the students to work in pairs on this activity in pairs for up to10 minutes as needed. Answer Key can be found on Teacher Resource Sheet 2.

Teacher Facilitation –

- Pull the class together to discuss the answers to the "Which Ocean" activity.
- Assign each pair of students one fish fraction card from the Student Resource Sheet 3 sheet that they will place on a clothesline later.
- Pick two students to hold a clothesline at the front of the classroom. Extend the line from one end of the room to the other. Label one end "0" and the other end "1". Ask the class where ½ should be placed on the line. Place ½ in the middle of the clothesline after the class agrees on its location.
- Call on pairs of students to place their fish in the correct ocean. Invite them to justify their answers. Have the class give the thumbs up or down for agree or disagree. If they disagree the class may help them to reposition their fish in the correct ocean.
- After they place their fish, the pair of students will become the clothesline holders. Students will switch after each placement. *(The first clothesline holders will be the last fish placers.)*
- Observe students during this activity to note who could move on to an extension activity and who needs extra support.

Student Application – *Fish Bowl Frenzy (Student Resource Sheet 4 and Student Resource Sheet 5) Where Is your Bowl (Student Resource Sheet 6)*

- Model for the class how to complete this activity. Use the fish that is 3/8 of an inch long and three large drawings of fish bowls to show how to place the fish in the correct location. Hold up the fish and read the fraction out loud. Find three of the rainbow fraction tiles that are each 1/8. Also find the ½ and 1. Compare your 3/8 fraction to the benchmark fractions. *(Ask the questions out loud, "Is it bigger or smaller than ½?" Answer: smaller). (Ask, "Is it closer to 0 or ½?" Answer: 1/2).* Explain that 3/8 is 3 small pieces of rainbow fraction titles and is smaller than the ½ piece, but is closer to ½ than 0 because it is 1/8 away from ½ and 3/8 away from 0.
- Give each student a copy of "Fish Fraction Bars" (Student Resource Sheet 4) and "Fish Bowls" (Student Resource Sheet 5).
- Instruct students to work individually to complete the activity.
- Observe students while they work on this activity. Give the students who show understanding of this skill the "Where is Your Bowl" (Student Resource Sheet 6) extension sheet to allow them to apply this skill to a different scenario. Pull the students who are struggling into a small group and work with them on "Fish Bowl Frenzy". Answer Key can be found on Teacher Resource Sheet 3.

Embedded Assessment – *Benchmark Observation Checklist (Teacher Resource Sheet 4 and Student Resource Sheet 7)*

- Observation checklist to be used 3 times throughout the lesson (Teacher Resource Sheet 4).

- Benchmark Exit Ticket (Student Resource Sheet 7)-Give each student a copy of the exit ticket. Students must complete the problem before leaving the room. For the problem, students will place the fraction near the benchmark number 0, ½, or 1. Use the student responses to prepare for tomorrow's instruction. Answer Key can be found on Teacher Resource Sheets #5 & 6.

Extension – *Where is Your Bowl? (Student Resource Sheet 6)*

- Give each student who understands the concept of "Fish Bowl Frenzy" a copy of "Where is Your Bowl" (Student Resource Sheet 6).
- Instruct students to create their own fish fractions and place them in the correct home based on the benchmarks, without using the rainbow fraction tiles.

Reteaching-

- Pull the students with a lack of comprehension of the concepts from "Fish Bowl Frenzy" into a small group.
- Work with the students to complete the activity as a group with your guidance/ modeling. Use questioning techniques as you complete the activity to gauge their new understanding.

Lesson 2-*Comparing Fractions (Greater than less than)*

Preassessment – *The Three Oceans Warm-up (Student Resource Sheet 8)*

- Give each student a copy of Student Resource Sheet 8.
- Instruct students to label the fractions with the correct ocean placement.
- Allow students 5 minutes to individually complete the assignment. Reassure students that you do not expect them to know the answer to each problem. They will have the opportunity to fix or fill in the answers as we review the worksheet later.
- Walk around to observe the students' progress, using the observation checklist for day2 (Teacher Resource Sheet 11). *This checklist will be used 4 times throughout this lesson.* Look for students who easily complete each problem correctly and those that are struggling. This observation will be used to pair the students for the next activity. *(Mixed ability grouping.)*
- Review the answers as a class. Ask for student volunteers to share answers and give justification for their reasoning. Answer Key can be found on Teacher Resource Sheet 7.

Launch – *Making and Comparing Fractions (Student Resource Sheet 9)*

- Pair students based on observations from pre-assessment. *(Mixed ability pairs)*

- Give each pair of students a copy of "Making and Comparing Fractions" (Student Resource Sheet 9), set of dice or number cubes, and a set of rainbow fraction tiles.
- Instruct students to work with a partner to play the game. Explain that each partner rolls the dice twice in order to get 2 numbers. Students use those 2 numbers to create a fraction and record it on their chart. Then, students compare their fraction to their partner's fraction using <, >, or =. They may draw pictures or use fraction bars to help them fill in the number sentence.
- Allow students to work in pairs on this activity in pairs for up to10 minutes as needed.
- While students are working use your observation checklist to note their success on this activity.
- Call on a few pairs of students to share their favorite fraction number sentence with the class.

Teacher Facilitation – *Where am I fishing?*

- Begin by using your clothesline as a number line and attach it to a wall or board in your room. Explain to the students that the clothesline represents the ocean.
- Use the *Fishing Boats* (Teacher Resource Sheet 8) as benchmarks on the clothesline. Have students help you place them on the clothesline.
- Give each student a fish from *Fish Fraction Card III* (Teacher Resource Sheet 9) and instruct him or her to think about where they would be located in the ocean. Remind students that they are fish and therefore they would want to stay far way from the fishing boats. However, as in real life some fish will end up too close to the boats and get caught while others will survive!
- Have each student go to the clothesline and find his or her spot in the ocean. The class may help struggling students with this activity. Use your observation checklist

  (C*orrect Placement of fraction on number line)* to record students' success.
- After all students have found their spot, discuss which fractions are closer to the boats (benchmarks) and which are farther away. Caution students to remember to notice what is on either side of them. *(Example: You may be really far from the boat at ½, but you may be close to the boat at ¾.)* Ask the students who got caught and who survived. Ask for justification for their answer.

Student Application – Continue *Where Am I Fishing?*

- Give the students a handful of Goldfish/Swedish fish and tell them that if they are successful on the next activity they will get to eat their school of fish.
- Give each student an index card and a marker or crayon.
- Instruct students that they are to create a fraction on their index card. The fraction needs to represent where they would want to live in our

clothesline ocean. Remind students that in order to survive (and eat their fish) they must not get caught by the fishing boats. *(This means students need to be comparing the fraction that they are creating with 2 benchmark fractions and finding the mid-point between these two fractions).*

- Allow students to create their fraction and draw a fish to match.
- Call upon students to place themselves in the clothesline ocean. Have the class vote on whether or not they would be caught or survive. The students who have survived may eat their school of fish when they sit down and all other students may eat their fish at the end of the activity.

Embedded Assessment –*Checklist (Teacher Resource Sheet 11) and Missing Fraction Number Sentence (Student Resource Sheet 11)*

- Use the day 2-observation checklist while students are making their fractions and placing them on the clothesline. *(Compares fractions to create successful fish)*
- Exit ticket (Student Resource Sheet 11) - Give each student a copy of the exit ticket. Students must complete the problem before leaving the room. For the problem, students will complete the given fraction number sentence using <, >, or = and explain their answer.

Reteaching-

- Pull aside students that are having trouble with creating a fraction to place on the clothesline. Work with them to create successful fractions using fraction tiles.

Extension –*Beware: Fishing Boats Ahead (Student Resource Sheet 10)*

- If students finish creating their fish early they may complete Student Resource Sheet 10.
- Instruct students to place the fish fractions in order from being caught 1^{st}, 2^{nd}, and 3^{rd} (the survivor). Remind them that they want to stay far away from the boat to survive. *(The worksheet has number lines and boats on it to mark the benchmark).* Answer Key can be found on Teacher Resource Sheet 10.

Lesson 3-*Ordering Fractions*

Preassessment –*Journal Entry*

- Write the journal entry-"*How do you know 4/8 is < 6/9?*" on the chalkboard or overhead.
- Instruct students to record their answers in their math journals. Remind them to think about all the things they have done the past two days to help them write their answer.
- Allow students about 3-5 minutes of writing time.

- Instruct students to share their journal entry with a neighbor or in groups. After a few minutes of sharing call upon a few students to share their journal with the class. Hold a brief discussion.
- While students are writing their journal use the teacher observation checklist for Day 3 (Teacher Resource Sheet 16) to record students' understanding. *Optional- collect journals and use a journal rubric to grade the entries.*

Launch – *Missing Fraction Number Sentence (Student Resource Sheet 11)*

- Give each student, Student Resource Sheet 11.
- Instruct them to use the numbers given on the sheet to complete the number sentence.
- Walk around with the teacher observation checklist during this activity to record students' understanding of ordering fractions. *The checklist will be used 3-4 times throughout the lesson.* Answer Key can be found on Teacher Resource Sheet 12.

Teacher Facilitation – Which Number? (Student Resource Sheet 12); *A Fishy Problem (Student Resource Sheet 13)*

- Begin a discussion on problem solving using the launch activity (*Which Numbers-Student Resource Sheet 12).* Ask a few students to share with the class the steps they used to solve the problem. Answer Key can be found on Teacher Resource Sheet 13.
- Discuss the answers along with the different problem solving techniques students used.
- Lead into a discussion of how there is different ways to solve a problem and there are 4 steps to follow that will help you.
- Introduce the 4 problem solving steps-refer to *Fishy Problem (Student Resource Sheet 13).* Give each student a copy Student Resource Sheet 13. Discuss the steps and how to use them to help you solve a problem. *(The steps are broken down to get the students thinking of the "key words"-vocabulary words that will help them decide how to solve the problem. It also shows the students the steps they took to solve the problem, so they can use that in the explanation section along with those "key words"-vocabulary words).*
- Explain to each student that they will work with a partner using the problem solving steps sheet to figure out the "Fishy Problem." *(Students will work with a partner using Goldfish to represent the Goldfish and Swedish fish to represent the guppies).*
- Give each pair of students a plate of Goldfish, Swedish fish, and a mini fish bowl/plastic container.
- Instruct students to use the food items and bowl to help them solve the problem *(This substitutes for fraction bars/drawing. However, students may still draw models to help them if needed)* along with the problem solving steps. Students should work together filling out their own sheet.

- Allow students 10-15 minutes as needed to explore the problem solving steps using the "Fishy Problem." During this time walk around with the teacher observation checklist day 3 to record student's understanding of the skill.
- Using an overhead and transparency of the Student Resource Sheet 13 go over possible answers to the problem. Call on students to share their strategies and have one of them write it on the transparency. Take turns calling on students till all steps have been discussed. Answer Key can be found on Teacher Resource Sheet 14.

Student Application – *Waterman Wes Student Resource Sheet 14/Student Resource Sheet 15*

- Give each student a copy of *Waterman Wes Student Resource Sheet 14 and Waterman Wes Problem Solving Sheet Student Resource Sheet 15.*
- Instruct students to work with a partner to solve Waterman Wes's problem. *(Students are to read the problem, fill in the problem solving steps as they go along, and create a map showing the route he should take).*
- During this time use the teacher observation checklist to conference with pairs of students, asking them the steps they are taking to solve the problem. (*If you notice that a group of students are struggling pull, them to a small group and work on the activity with them using manipulatives. Example: fraction bars).*
- Allow students to work on this activity for the remaining part of the lesson, allowing 5 minutes to complete the exit ticket at the conclusion of today's lesson.
- Collect students' maps and problem solving step sheets to grade and keep in their files for conference data or to post around the room. *(Option-you could create a Waterman Wes bulletin board to post student's steps and maps).*

Embedded Assessment –

- Teacher observation checklist day 3 used throughout the lesson.
- Student maps and problem solving sheet from *Waterman Wes Student Resource Sheet 14/Student Resource Sheet 15.* Answer Key can be found on Teacher Resource Sheet 15.
- Exit ticket (Student Resource Sheet 16) - Give each student a copy of the exit ticket *Comparing Fractions BCR*. Students must complete the problem before leaving the room. For the problem, students will complete a BCR by comparing and ordering fractions. *Answer key included (Teacher Resource Sheet 17).*

Extension –

- *Waterman Wes (Student Resource Sheet 14/15)* is used as an extension for students with understanding of *Fishy Problem (Student Resource Sheet 13).*

Reteaching-

- *Waterman Wes (Student Resource Sheet 14/15)* is used as a reteach for the struggling students.

Summative Assessment: *Fraction Assessment Student Resource Sheet 17*

Students will show their understanding of comparing and ordering fractions by completing fill in the blank answers and a brief constructed response (BCR). Students will need to use problem solving skills and reasoning in order to justify their answers. (*An answer key is on Teacher Resource Sheet 18).*

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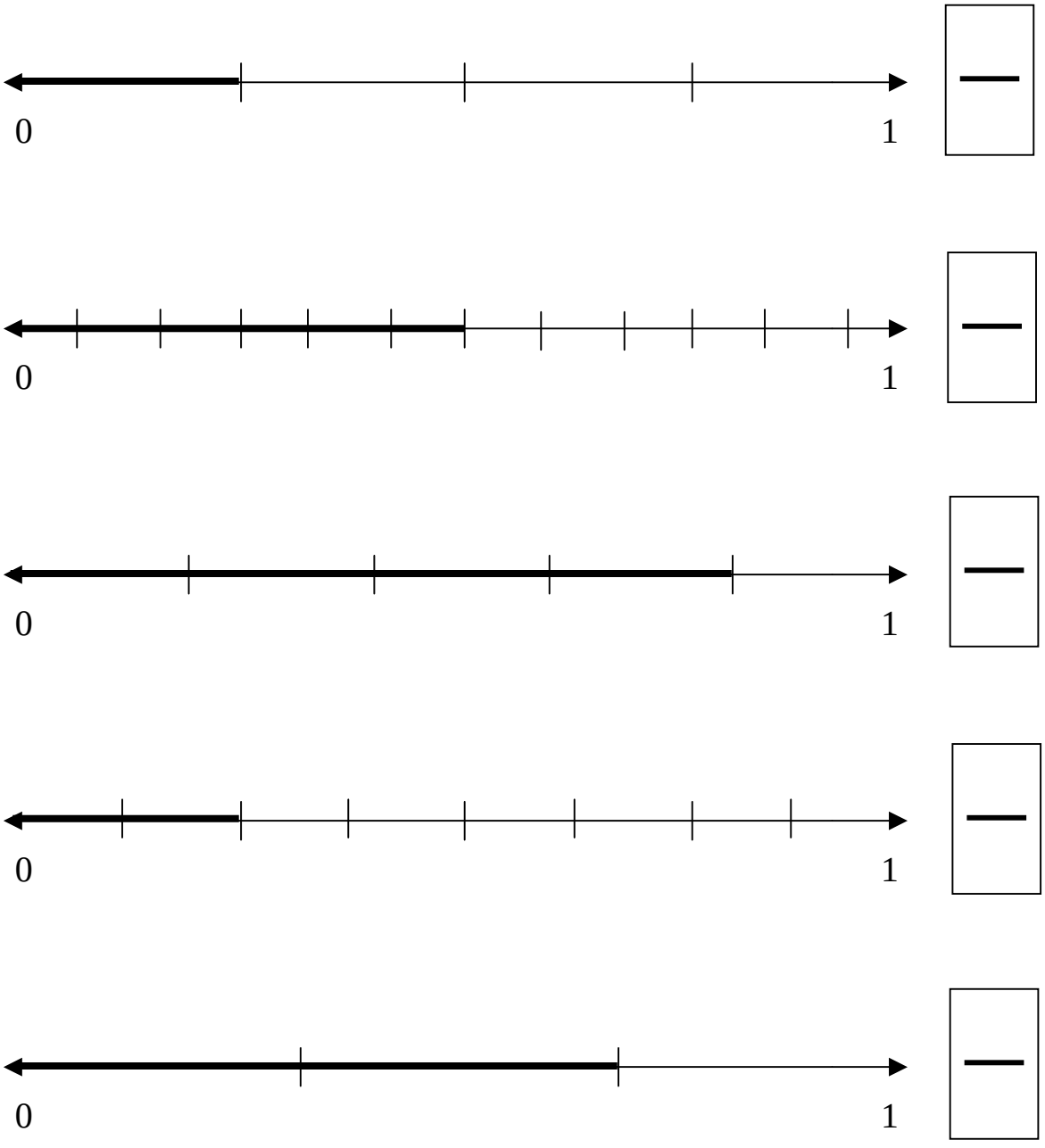
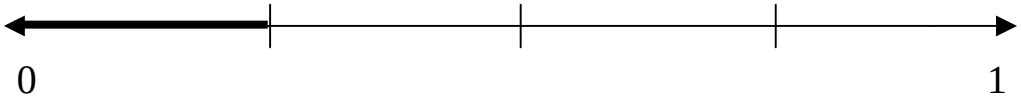
Number Line Warm-Up

Write a fraction to represent the part that is shaded on each number line.

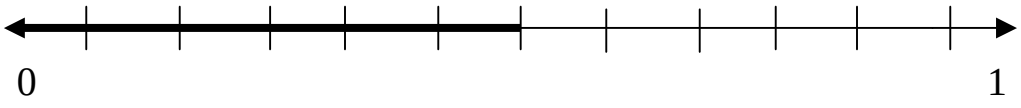


Comparing Fractions Warm-Up
Answer Key

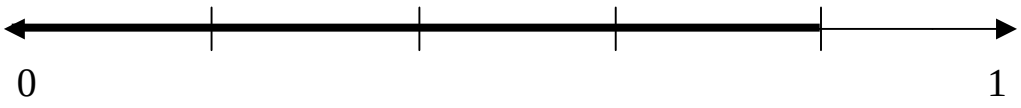
Write a fraction to represent the part that is shaded on each number line.



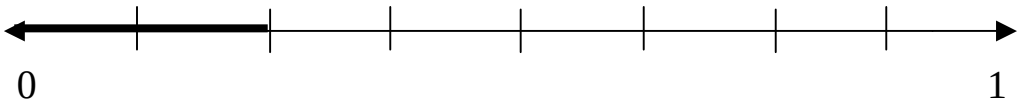
$\frac{1}{4}$



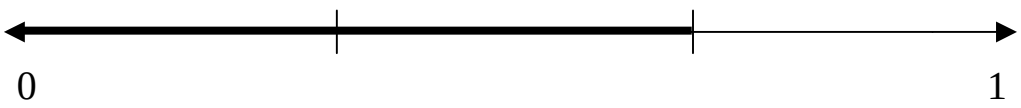
$\frac{6}{12}$



$\frac{4}{5}$



$\frac{2}{8}$

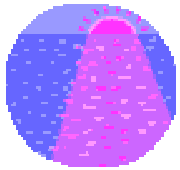


$\frac{2}{3}$

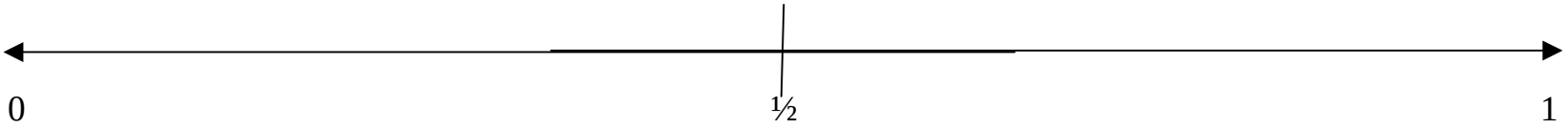
Name_____ Date_____

Which Ocean?

Directions: Choose a fish fraction card with your partner. Decide which ocean the fish belongs to, the Atlantic Ocean or the Pacific Ocean. Use the number line below and your rainbow fraction tiles to help you sort the fish into the correct ocean.



Atlantic Ocean **Pacific Ocean**

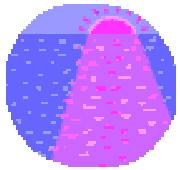


*__Bonus Activity__-When you finish sorting your fish fractions, see if you can put them in order from least to greatest on a number line. Use a sentence strip to represent your number line. Glue your fish onto the sentence strip in order from least to greatest. Make sure to mark on your number line the 0, ½, and 1 benchmarks to help you. Good luck and have fun organizing your fish!

Name_____ Date_____

Which Ocean?-ANSWER KEY

Directions: Choose a fish fraction card with your partner. Decide which ocean the fish belongs to, the Atlantic Ocean or the Pacific Ocean. Use the number line below and your rainbow fraction tiles to help you sort the fish into the correct ocean.



Atlantic Ocean **Pacific Ocean**

0 ½ 1

5/12 3/8 5/6 7/10

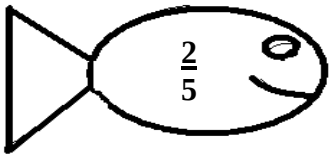
1/10 0/4 2/5

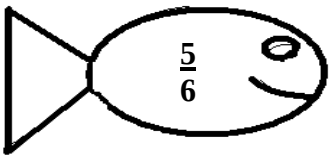
6/8 2/3 11/12

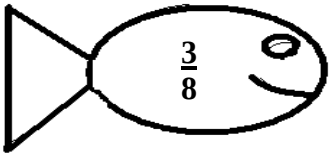
Fractions in order from least to greatest:

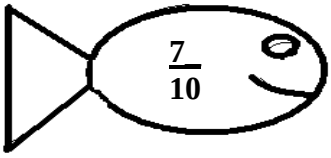
0/4 1/10 3/8 2/5 5/12 2/3 7/10 6/8 5/6 11/12

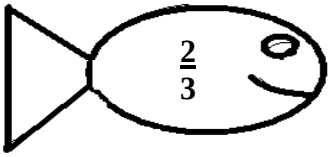
Fish Fraction Cards I

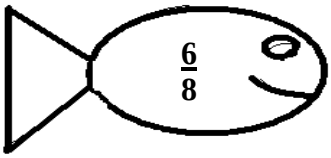


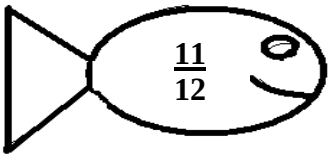


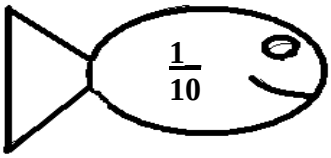


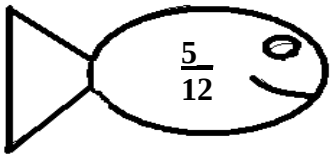


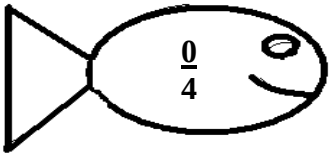




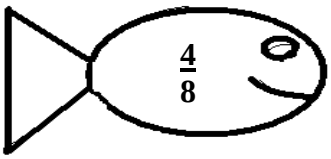


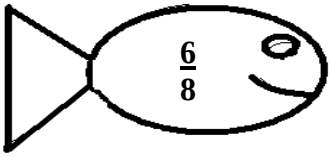


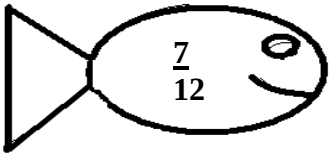


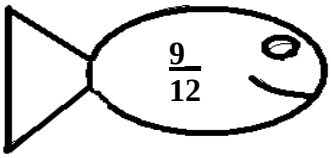


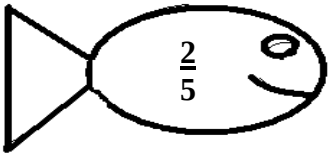
Fish Fraction Cards II

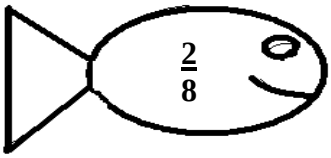


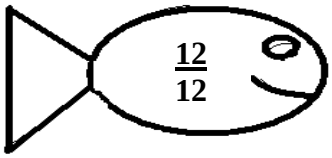


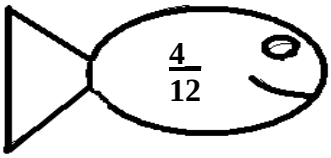


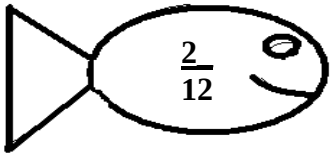


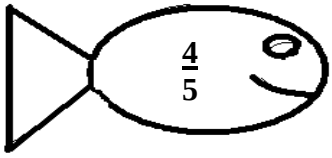




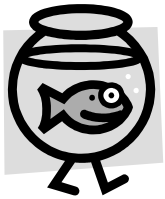






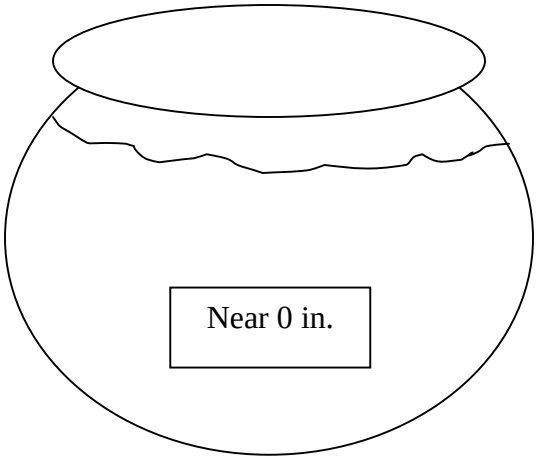


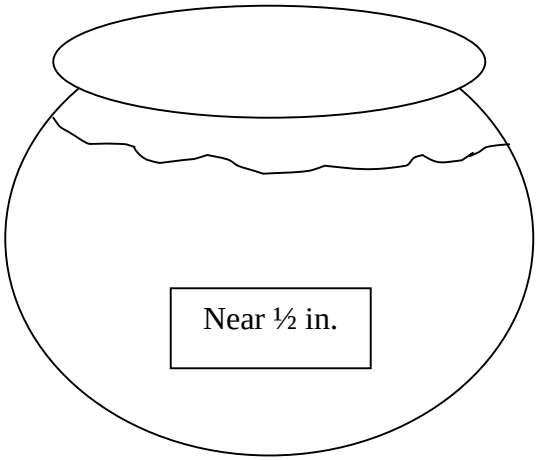
Name_____ Date_____

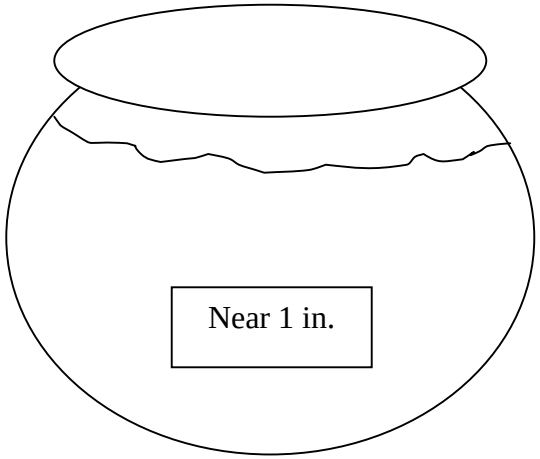


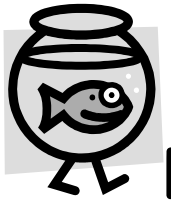
Fish Bowl Frenzy!

Directions: A pet shop is trying to organize their fish into bowls by size. They need your help placing the fish in to their correct bowl. Use your rainbow fraction tiles and your benchmarks 0, $\frac{1}{2}$, and 1 to help you place the fish into the correct bowl.



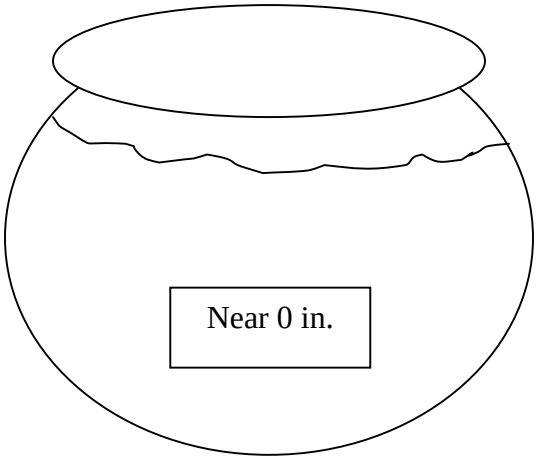




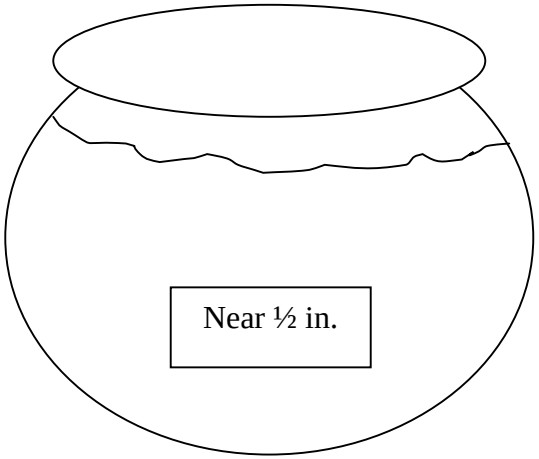


Fish Bowl Frenzy-ANSWER KEY!

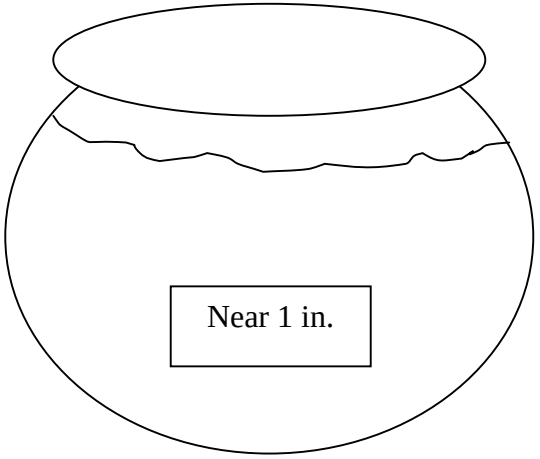
Directions: A pet shop is trying to organize their fish into bowls by size. They need your help placing the fish in to their correct bowl. Use your rainbow fraction tiles and your benchmarks 0, $\frac{1}{2}$, and 1 to help you place the fish into the correct bowl.



2/12
2/8
4/12



4/8
2/5
7/12



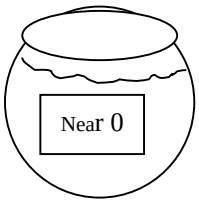
9/12 6/8
12/12 4/5

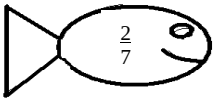
Name_____ Date_____

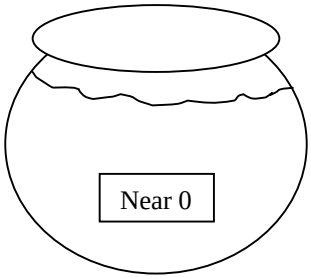
Where is Your Bowl?

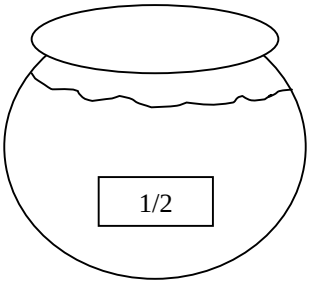
Directions: Below are 3 fish bowls near 0, near $\frac{1}{2}$, near 1. Create 3 fish and write 3 different fractions on them. Place or draw your fish under the bowl in which it would belong. Try to get one fish per bowl!

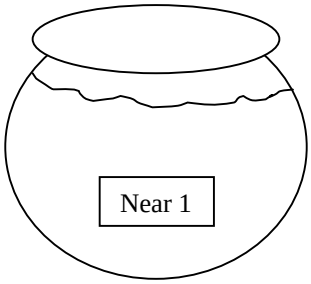
Example: I drew a fish with 2/7 and placed him in the near 0 bowl.











Choose one of your fish from above and explain why you placed it in the bowl you chose.

_____
_____
_____
_____
_____

Teacher Resource Sheet 4

Teacher Observation Checklist
Fishin' for Fractions
Day One

Criteria	Names of Students																													
Correct Fraction for a Given Model																														
Used Benchmarks Correctly (Student Resource Sheet 2)																														
Used Benchmarks Correctly (Student Resource Sheet 5)																														

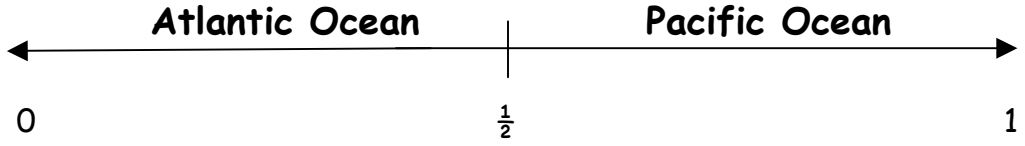
Teacher Notes / Anecdotal Records

Student Resource Sheet 7

Name_____ Date_____

Benchmark Exit Ticket

Step A: Write the name of the correct ocean where the following fraction should be placed. $\frac{3}{5}$



Name of ocean: _____

Step B: Use what you know about fraction benchmarks to explain why your answer is correct. Use words, numbers, or symbols in your explanation.

_____

_____

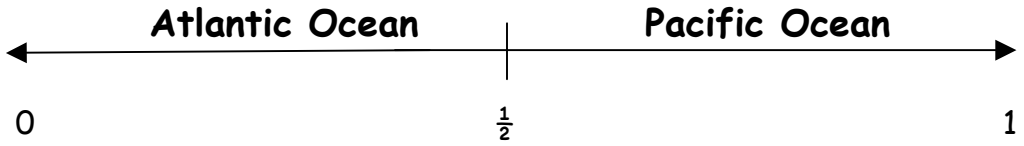
_____

_____

_____

Benchmark Exit Ticket
Answer Key

Step A: Write the name of the correct ocean where the following fraction should be placed. $\frac{3}{5}$



Name of ocean: Pacific Ocean **(1 Point)**

Step B: Use what you know about fraction benchmarks to explain why your answer is correct. Use words, numbers, or symbols in your explanation.

Answers should include the concept that 3/5 is greater than $\frac{1}{2}$ with an explanation of how they figured that out. The area that is to the right of $\frac{1}{2}$ is the area that is larger than $\frac{1}{2}$ because it is moving towards 1 instead of 0. The area to the right of $\frac{1}{2}$ is labeled the Pacific Ocean. (See BCR Rubric Teacher Resource Sheet S7.) **(2 Points)**

BCR Rubric

(2) The response demonstrates a complete understanding and analysis of a problem.

- Application of a reasonable strategy in the context of the problem is indicated.
- Explanation[1] of and/or justification[2] for the mathematical process(es) used to solve a problem is clear, developed, and logical.
- Connections and/or extensions made within mathematics or outside of mathematics are clear.
- Supportive information and/or numbers are provided as appropriate.

(1) The response demonstrates a minimal understanding and analysis of a problem.

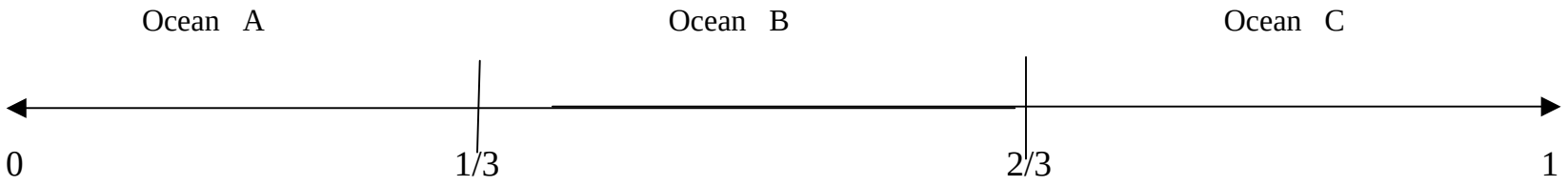
- Partial application of a strategy in the context of the problem is indicated.
- Explanation[1] of and/or justification[2] for the mathematical process(es) used to solve a problem is partially developed, logically flawed, or missing.
- Connections and/or extensions made within mathematics or outside of mathematics are partial or overly general, or flawed.
- Supportive information and/or numbers may or may not be provided as appropriate.

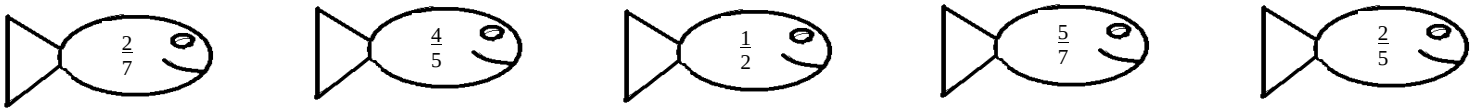
(0)The response is completely incorrect, irrelevant to the problem, or missing.

Name_____ Date_____

The Three Oceans

Directions: Decide which ocean the fish belongs to, Ocean A, Ocean B, or Ocean C. Use the number line below and the given benchmarks to help you sort the fish into the correct ocean.



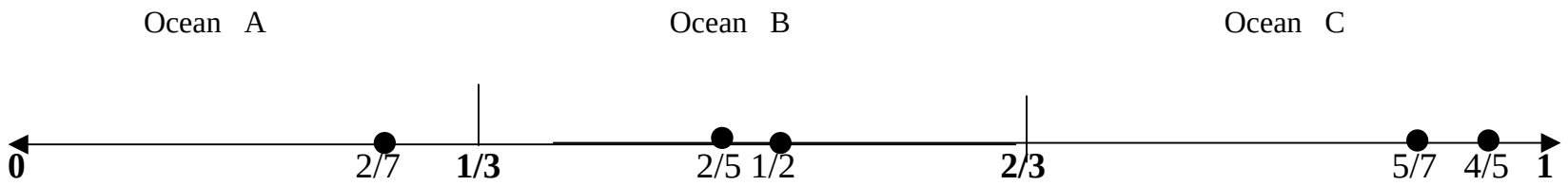


*__Bonus Activity__-When you finish sorting your fish fractions, see if you can put them in order from least to greatest on the number line.

Name_____ Date_____

The Three Oceans
Answer Key

Directions: Decide which ocean the fish belongs to, Ocean A, Ocean B, or Ocean C. Use the number line below and the given benchmarks to help you sort the fish into the correct ocean.

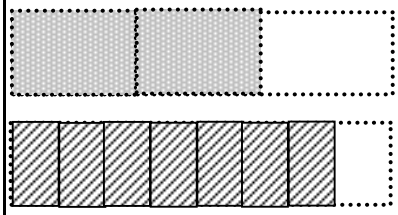


*__Bonus Activity__-When you finish sorting your fish fractions, see if you can put them in order from least to greatest on the number line.

Making and Comparing Fractions

less than< = > greater than

Directions: Work with a partner to play the following game. Each partner rolls the dice twice in order to get 2 numbers. Use those 2 numbers to create a fraction and record it on the chart below. Then, compare your fraction to your partner's fraction using <, >, or =. You may draw pictures or use fraction bars to help you fill in the number sentence.

Your fraction	Drawing/Model/Picture	Partner's fraction	Write a number sentence using <, >, or =
$\frac{2}{3}$		$\frac{7}{8}$	$\frac{2}{3}$ < $\frac{7}{8}$

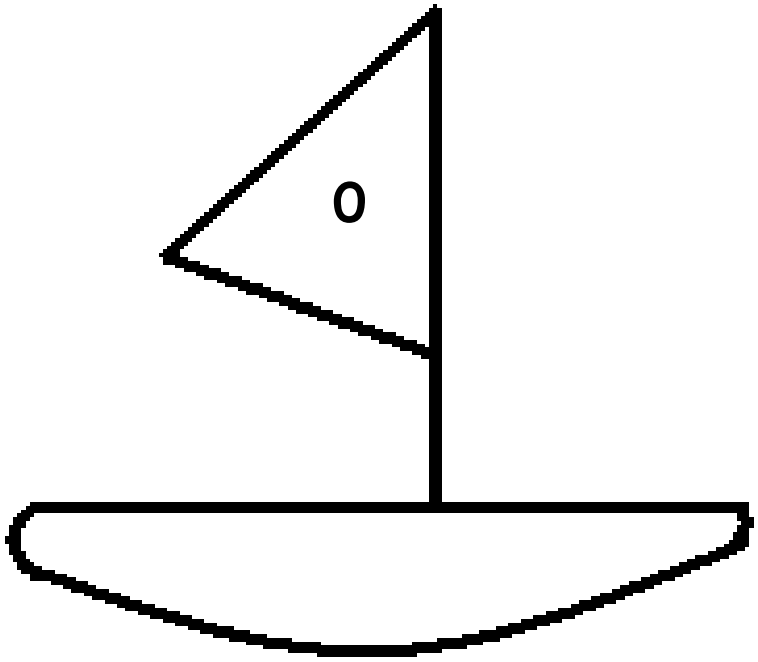
Extra Activity to try!

- Choose **3** fractions from your game board and put them in order from **least to greatest.** < >

  _____< _____< _____

- Choose **4 different** fractions from your board and place them in order from **greatest to least.** > <

  _____> _____> _____> _____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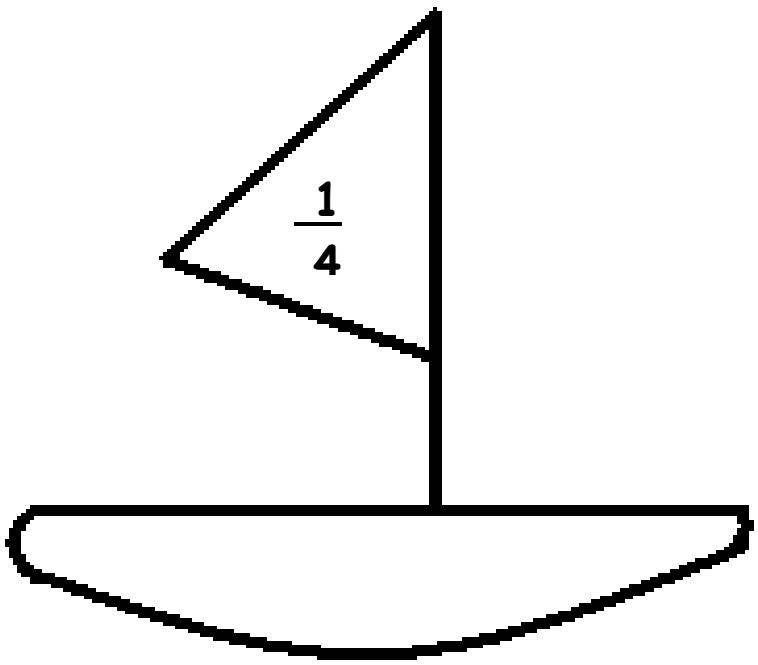
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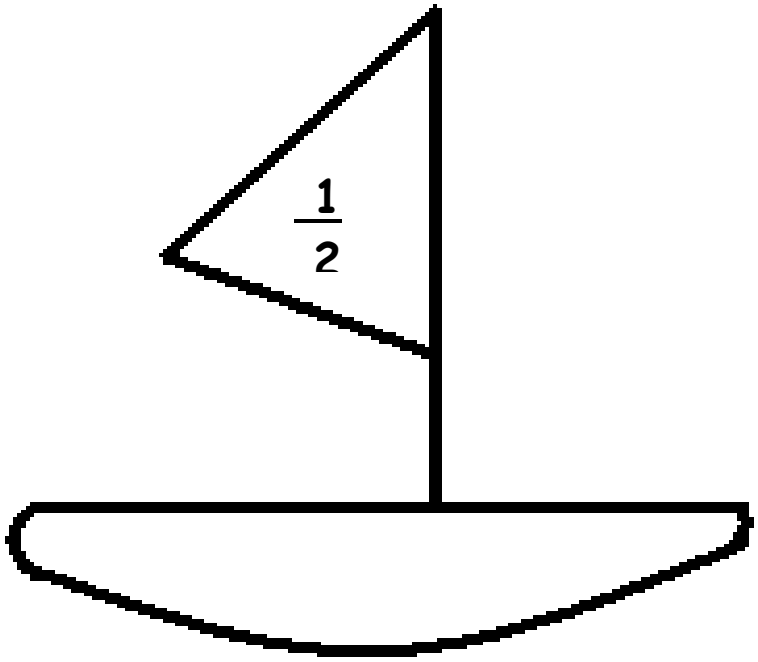
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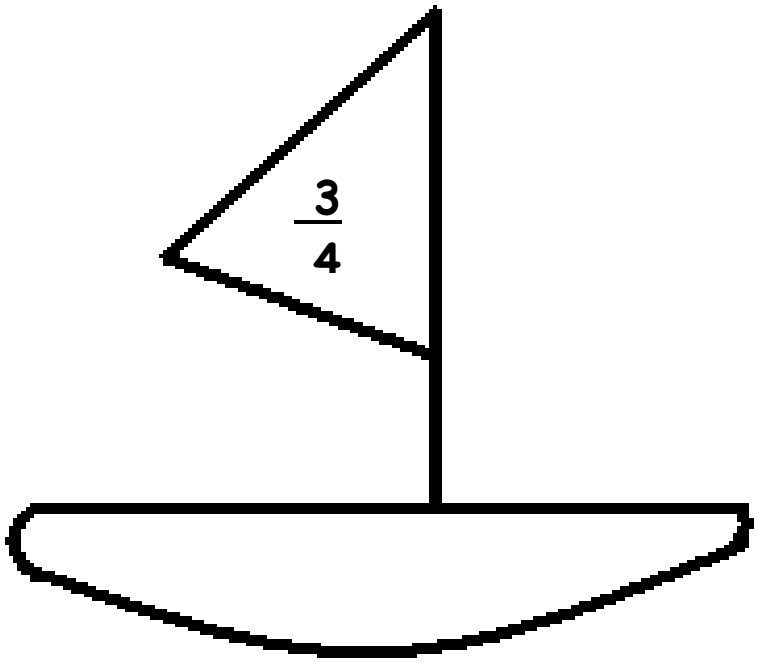
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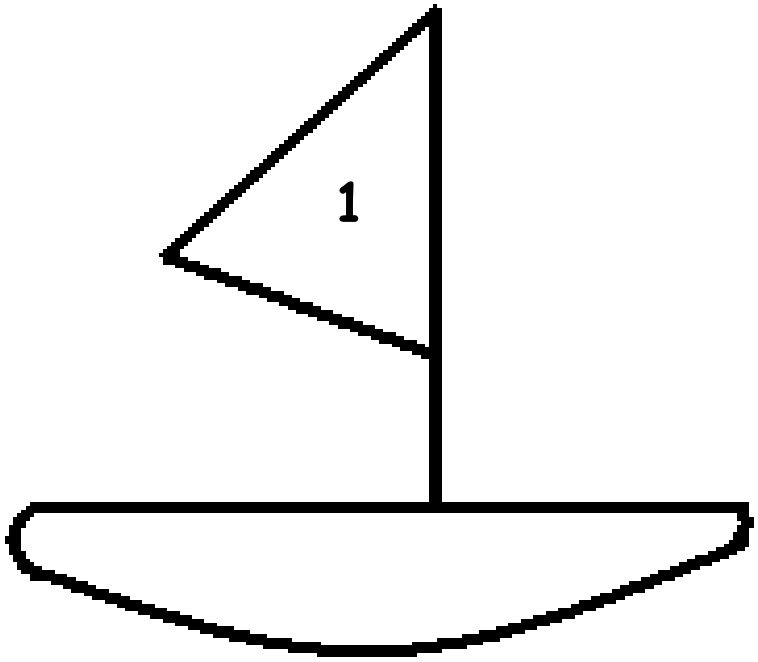
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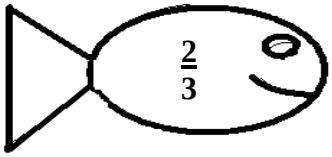
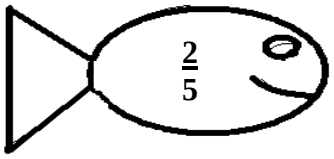
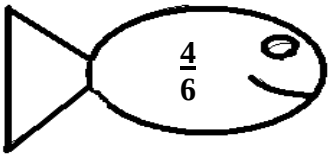
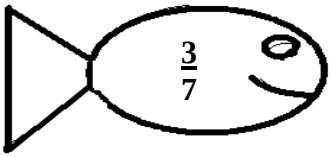
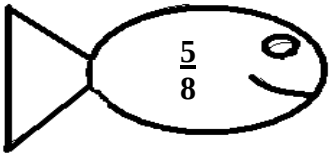
Fish Fraction Sheet III

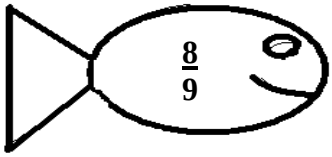


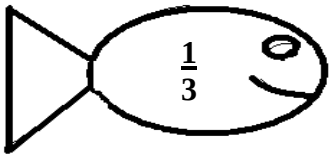


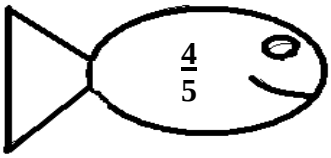


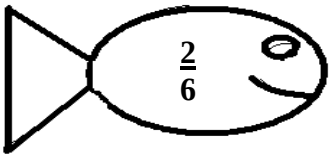


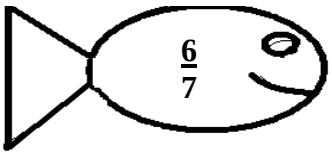


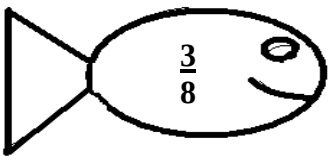


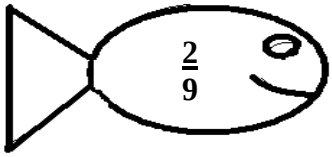


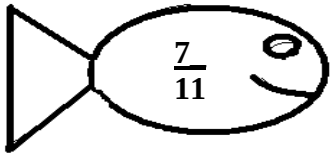








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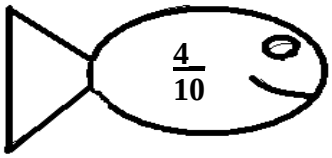
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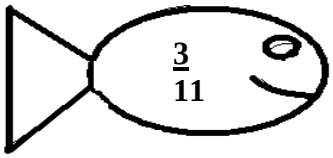
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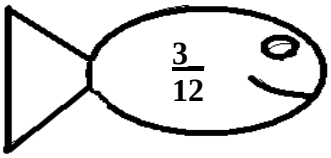
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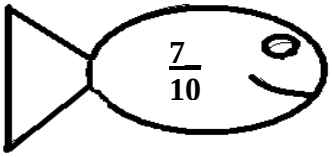
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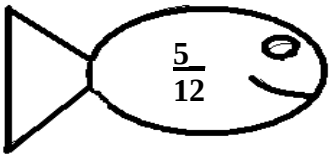
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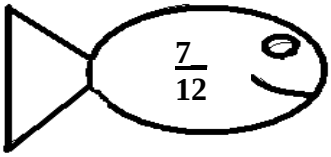
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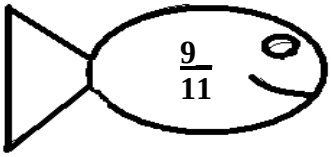
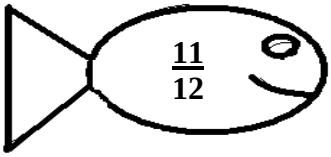

9
11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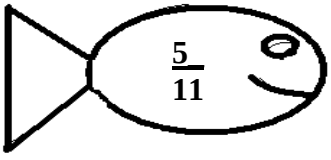
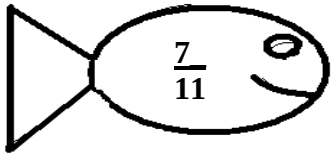
12


5
11


7
11

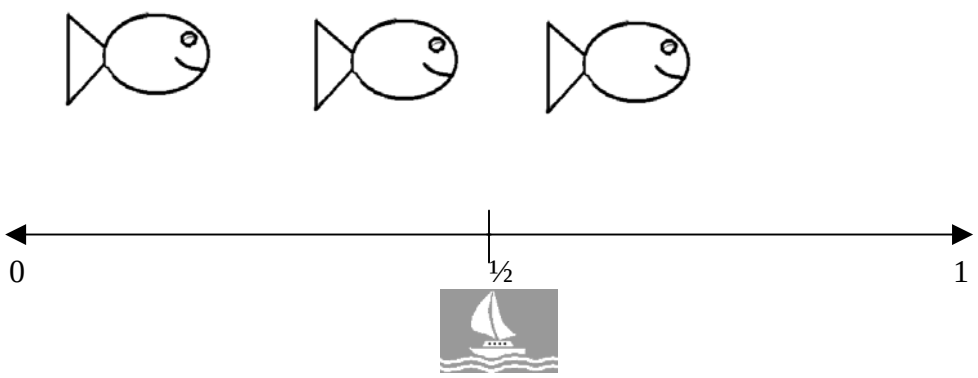
Name_____ Date_____

Beware: Fishing Boats Ahead!

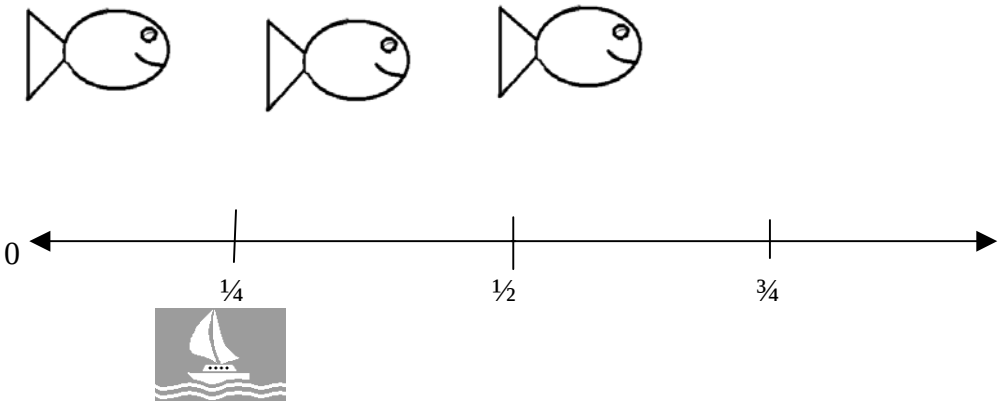
Directions: Put the fractions on the number line in the correct place and then label that would get caught 1st, 2nd, and 3rd.

Example: If there were 3 fish (2/3, 4/8 and 5/5 and the boat was at 1 on the number line, who would be caught first? (**Think:** Which is the largest fraction, closest to 1? And so on). **Answer:** 5/5, 2/3, 4/8

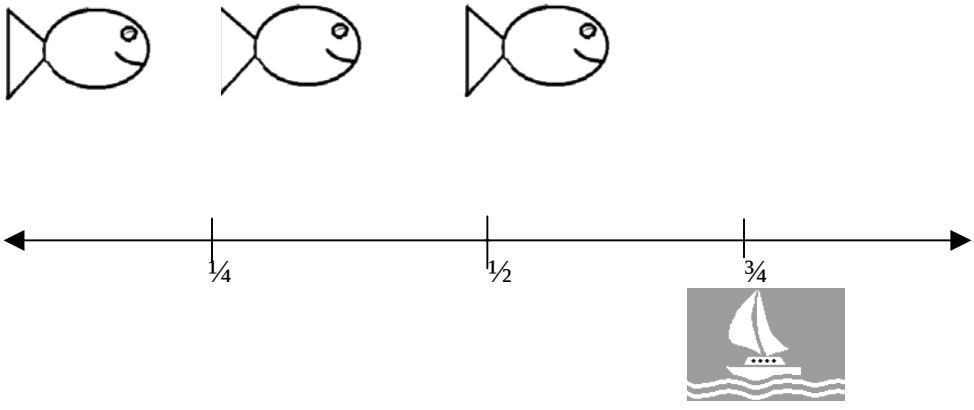
1.



2.



3.



Name_____ Date_____

Answer Key-Beware: Fishing Boats Ahead!

Directions: Put the fractions in order from who would get caught 1st, 2nd, and 3rd.

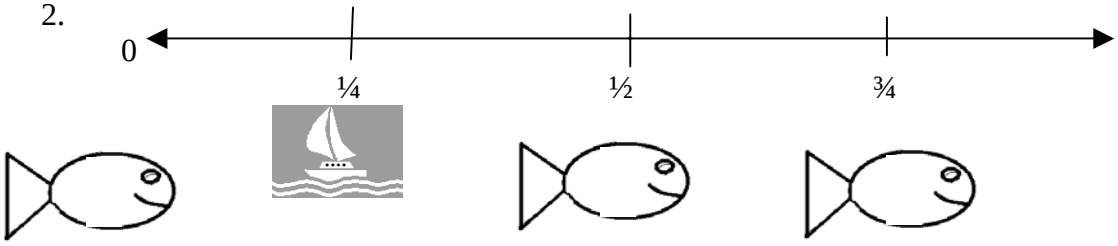
Example: If there were 3 fish (2/3, 4/8 and 5/5 and the boat was at 1 on the number line, who would be caught first? (**Think:** Which is the largest fraction, closest to 1? And so on). **Answer:** 5/5, 2/3, 4/8

Now it is your turn:

1.

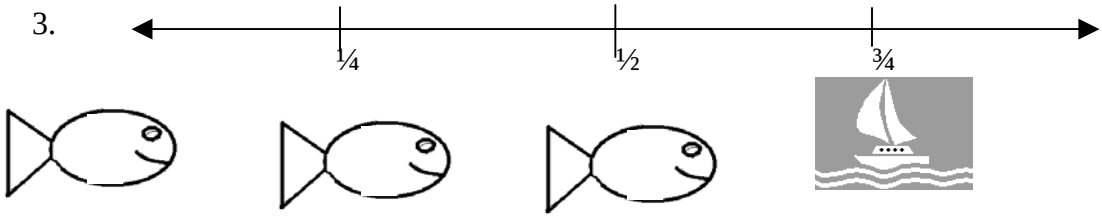
4/8, 2/8, 8/8

2.



2/5, 4/7, 5/6

3.



7/8, 2/3, 5/9

Teacher Observation Checklist
Fishin' for Fractions
Day Two

Criteria	Names of Students																													
Correct Placement of Fractions Within a Benchmark (Student Resource Sheet 8)																														
Compared Fractions Correctly (Student Resource Sheet 9)																														
Correct Placement of Fraction on Number Line																														
Compares Fractions to Create a Successful Fraction																														

Teacher Notes / Anecdotal Records

Name_____ Date_____

Missing Fraction Number Sentence!

(Exit Ticket)

Directions: Ahh! The number sentence below is not complete. A student needs your help to fill in the missing part or they will receive a 0! Use <, >, or = to complete the sentence.

$\frac{2}{6}$ ◯ $\frac{4}{5}$

Explain your thinking using pictures, numbers, and words.

I know this number sentence is correct because...

_____

_____

_____

_____

_____

Name_____ Date_____

Missing Fraction Number Sentence!

(Exit Ticket)

Directions: Ahh! The number sentence below is not complete. A student needs your help to fill in the missing part or they will receive a 0! Use <, >, or = to complete the sentence.

$\frac{2}{6}$ ◯ $\frac{4}{5}$

Explain your thinking using pictures, numbers, and words.

I know this number sentence is correct because...

_____

_____

_____

_____

_____

Missing Fraction Number Sentence!

(Exit Ticket)

ANSWER KEY!

Directions: Ahh! The number sentence below is not complete. A student needs your help to fill in the missing part or they will receive a 0! Use <, >, or = to complete the sentence. **(1 POINT)**

$$\frac{2}{6} \quad < \quad \frac{4}{5}$$

Explain your thinking using pictures, numbers, and words.

I know this number sentence is correct because…

Main concept is that 4/5 is greater than 2/6 because: accept reasoning based on whether they drew a picture, referenced fraction tiles, or another logical way of figuring it out. **(2 POINTS)**

Missing Fraction Number Sentence!

(Exit Ticket)

ANSWER KEY!

Directions: Ahh! The number sentence below is not complete. A student needs your help to fill in the missing part or they will receive a 0! Use <, >, or = to complete the sentence. **(1 POINT)**

$$\frac{2}{6} \quad < \quad \frac{4}{5}$$

Explain your thinking using pictures, numbers, and words.

I know this number sentence is correct because…

Main concept is that 4/5 is greater than 2/6 because: accept reasoning based on whether they drew a picture, referenced fraction tiles, or another logical way of figuring it out. **(2 POINTS)**

Name_____ Date_____

Which Number?

Directions: Working with a partner, use the numbers below to create fractions that make the number sentence true. **Each number can only be used once.** Good luck and remember you can use pictures or fraction bars!

Numbers to use:

2 3 4 6

$$\_\_\_\_\_ < \frac{5}{8} < \_\_\_\_\_$$

Name_____ Date_____

Which Number?

Directions: Working with a partner, use the numbers below to create fractions that make the number sentence true. **Each number can only be used once.** Good luck and remember you can use pictures or fraction bars!

Numbers to use:

2 3 4 6

$$\_\_\_\_\_ < \frac{5}{8} < \_\_\_\_\_$$

Name_____ Date_____

Which Number? **ANSWER KEY!**

Directions: Working with a partner, use the numbers below to create fractions that make the number sentence true. **Each number can only be used once.** Good luck and remember you can use pictures or fraction bars!

Numbers to use:

2 3 4 6

$$\frac{2}{6} < \frac{5}{8} < \frac{3}{4}$$

Name_____ Date_____

Which Number? **ANSWER KEY!**

Directions: Working with a partner, use the numbers below to create fractions that make the number sentence true. **Each number can only be used once.** Good luck and remember you can use pictures or fraction bars!

Numbers to use:

2 3 4 6

$$\frac{2}{6} < \frac{5}{8} < \frac{3}{4}$$

Name_____ Date_____

A Fishy Problem

Your friend has a fish tank and tells you that $\frac{1}{4}$ of his fish are guppies and 5/8 of his fish are goldfish. Are more of his fish guppies or goldfish?

Directions: Use the goldfish crackers, Swedish fish candies, and the problem solving step sheet to help you solve the problem.

Step 1: **Read** the question. **Underline** the **key words**.

Step 2: List the **key words** and the computation you would use.

_____

_____

_____

_____

_____

_____

Step 3: **Solve** (use pictures, numbers and/or symbols to solve)

Step 4: Use words to explain how you solved the problem.

_____

_____

_____

_____

_____

_____

Name_____ Date_____

A Fishy Problem-ANSWER KEY!

Your friend has a fish tank and tells you that $\frac{1}{4}$ of his fish are guppies and 5/8 of his fish are goldfish. Are more of his fish guppies or goldfish?

Directions: Use the goldfish crackers, Swedish fish candies, and the problem solving step sheet to help you solve the problem.

Step 1: **Read** the question. **Underline** the **key words**.

Students should have underlined:
- ¼ guppies
- 5/8 goldfish
- Are more

Step 2: List the **key words** and the computation you would use.

- ¼ are guppies
- 5/8 are goldfish
- Are more guppies or goldfish?
- Compare the fractions-draw models

Step 3: **Solve** (use pictures, numbers and/or symbols to solve)

Students draw models or show work in this box.

Step 4: Use words to explain how you solved the problem.

Students can write:
- I solved the problem by…
- Or show steps using bullets

Answer should include: He has more goldfish than guppies because 5/8 is bigger than ¼.

- Use BCR rubric to grade

(2 points)

Name_____ Date_____

Waterman Wes

Waterman Wes kept track of where he caught his fish on the Chesapeake Bay today. He discovered that he had caught 4/9 of a ton near Crisfield Island, 5/7 of a ton near Ewell Island, 3/5 of a ton near Smith Island, and 9/11 of a ton near Tangier Island.

Tomorrow, Waterman Wes wants to conserve as much energy as he can on his boat, so he needs to hull the fish the smallest possible distance. This means that he needs to catch the most fish at the end of the day. If Waterman Wes wants to catch the smallest amount of fish at the beginning of the day, and the most fish at the end, what route should he follow through the Chesapeake Bay Islands? Draw a map of the Bay, including the four islands, and label his best possible route.

Use the "Problem Solving Step Sheet" to help you find the best possible answer.

Name_____ Date_____

Waterman Wes
Problem Solving Steps

Step 1: **Read** the question. **Underline** the **key words**.

Step 2: List the **key words** and the computation you would use.

_____

_____

_____

_____

_____

_____

Step 3: **Solve** (use pictures, numbers and/or symbols to solve)

Step 4: Use words to explain how you solved the problem.

_____

_____

_____

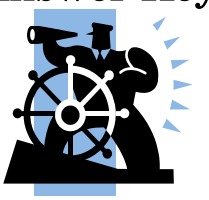
_____

_____

_____

Name_____ Date_____

Waterman Wes
Answer Key



Waterman Wes should travel near the islands of the Chesapeake Bay in the following order: Crisfield, Smith, Ewell, and then Tangier.
The students' maps can look like anything, as long as they follow this path.

Step 1: **Read** the question. **Underline** the **key words**.

4/9 Crisfield Island
5/7 Ewell Island
3/5 Smith Island
9/11 Tangier Island

Smallest
Most

Step 2: List the **key words** and the computation you would use.

4/9 Crisfield Island
5/7 Ewell Island
3/5 Smith Island
9/11 Tangier Island

Order from smallest to largest

Draw a map and fraction pictures

Step 3: **Solve** (use pictures, numbers and/or symbols to solve)

Students can draw pictures of each fraction to compare the sizes.

Student maps can look like anything, as long as the route Waterman Wes needs to follow is correct.

Step 4: Use words to explain how you solved the problem.

I solved the problem by…

Show/explain steps…

(See BCR rubric for grading guidelines.)

Teacher Observation Checklist
Fishin' for Fractions
Day Three

Criteria	Names of Students																													
Understanding of Comparing Fractions (Journal)																														
Ordering Fractions (Launch)																														
Problem Solving (Fishy Problem)																														
Comparing Fractions (Fishy Problem)																														

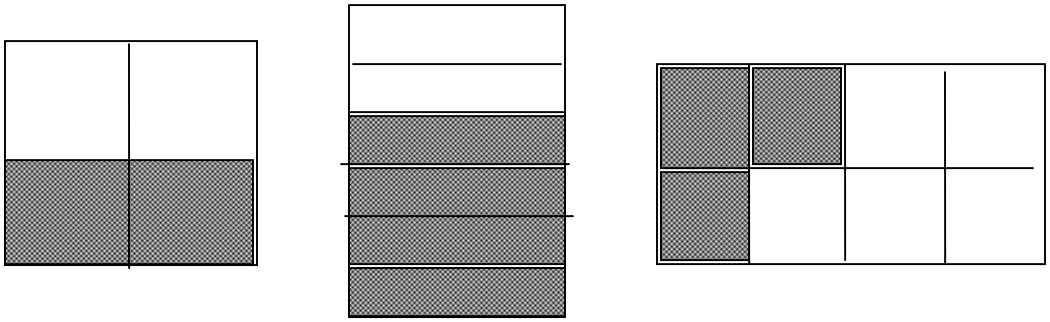
Teacher Notes / Anecdotal Records

Name_____ Date_____

Comparing Fractions Exit Ticket

Step A

Compare and order the fractions represented by the shaded pictures below from least to greatest.



_____ < _____ < _____

Step B

Use what you know about fractions to explain why your answer is correct. Use number and/or words in your explanation.

_____

_____

_____

_____

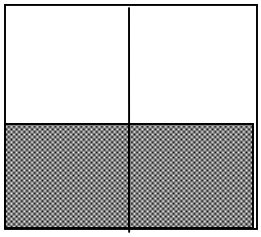
_____

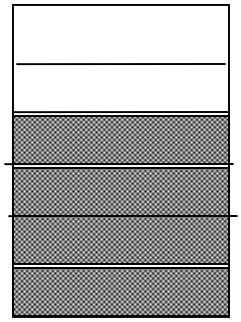
_____

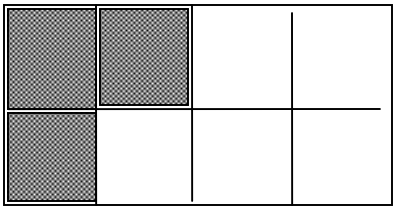
Comparing Fractions Exit Ticket
Answer Key

Step A

Compare and order the fractions represented by the shaded pictures below from least to greatest. **(1 point)**







2/4= $\frac{1}{2}$= 12/24 4/6= 2/3= 16/24 3/8= 9/24

3/8 < 2/4 < 4/6

Step B

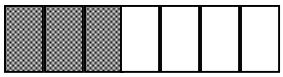
Use what you know about fractions to explain why your answer is correct. Use number and/or words in your explanation.

See BCR rubric. (2 points)

Name_____ Date_____

Fishin' for Fractions Assessment

1. Is the shaded region of the fraction bar near 0, 1/2, or 1? _____



Sort the fractions into groups near 0, near 1/2, and near 1.

2/25	5/9	11/12	3/8	4/7	1/10

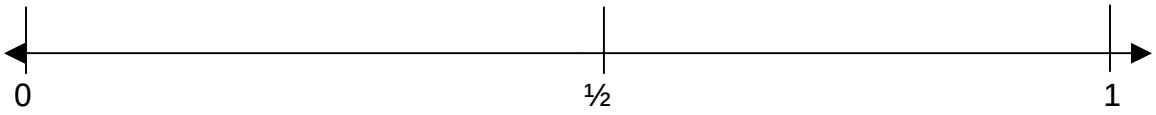
2. Near 0:_____

3. Near 1/2:_____

4. Near 1:_____

5. Place the following fractions onto the number line using your benchmarks.

2/5 10/12 2/3



6.

Step A

A teacher is trying to organize her materials for a lesson and needs to have the smaller amount of supplies first and end with the largest amount of supplies. She has 1/4 of a box of crayons, 4/5 of a box of crayons, and 7/12 of a box of crayons. Put her supplies in order from **least to greatest** so her lesson will go well.

_____< _____< _____

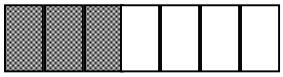
Step B

Use what you know about comparing and ordering fractions to explain how you got your answer. Use numbers, words, or symbols in your explanation.

_____
_____
_____
_____
_____

Fishin' for Fractions Assessment
Answer Key (10 points)

1. Is the shaded region of the fraction bar near 0, 1/2, or 1? **½ (1 pt)**



Sort the fractions into groups near 0, near 1/2, and near 1.

2/25	5/9	11/12	3/8	4/7	1/10

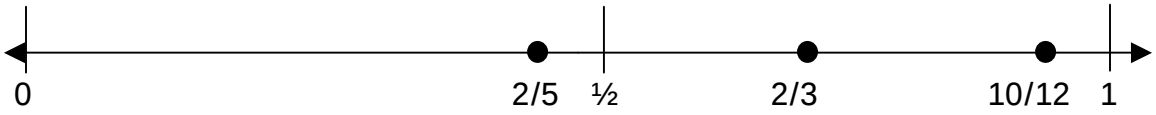
2. Near 0: **2/25 1/10 (1 pt)**

3. Near 1/2: **5/9 3/8 4/7 (1pt)**

4. Near 1: **11/12 (1 pt)**

5. Place the following fractions onto the number line using your benchmarks.

2/5 10/12 2/3



(1 pt each)

6.

Step A

A teacher is trying to organize her materials for a lesson and needs to have the smaller amount of supplies first and end with the largest amount of supplies. She has 1/4 of a box of crayons, 4/5 of a box of crayons, and 7/12 of a box of crayons. Put her supplies in order from **least to greatest** so her lesson will go well.

¼ < 7/12 < 4/5 (1 point)

Step B

Use what you know about comparing and ordering fractions to explain how you got your answer. Use numbers, words, or symbols in your explanation.

Students should show an understanding of ordering fractions.

See BCR rubric. (2 points)