

3rd Grade Unit 4: Reasoning with Fractions Real World Experience

CCSS.Math.Content.3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.

CCSS.Math.Content.3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

Scenario:

Our class is in charge of creating an obstacle course. A fraction of the course will be designed for aerobic activities to support heart health. Another fraction of the course will be obstacles to develop coordination.

Because of the area available outside, the activities need to be organized in a line. After you have chosen the particular obstacles for your course, you will create a diagram that represents each section of the obstacle course so that others helping to set up the course will know exactly where each activity should start.

Task 1:

- Gain background knowledge about an obstacle course and aerobic activities.
- Recognize that an obstacle course has different parts.
- Using one of the templates provided, design a fun obstacle course for the class that has at least three different activities with at least one of the activities being aerobic.
 - Decide if your obstacle course will have 4, 6, or 8 sections.
 - List the obstacles that you would include in your obstacle course.
 - Describe the various activities within the course.

Task 2: Label your design with the appropriate fraction of the whole course for each activity.

Task 3: Compare your obstacle course with someone.

- Who, if anyone, has a larger aerobic area? How do you know?
- Who has more obstacles? How do you know?

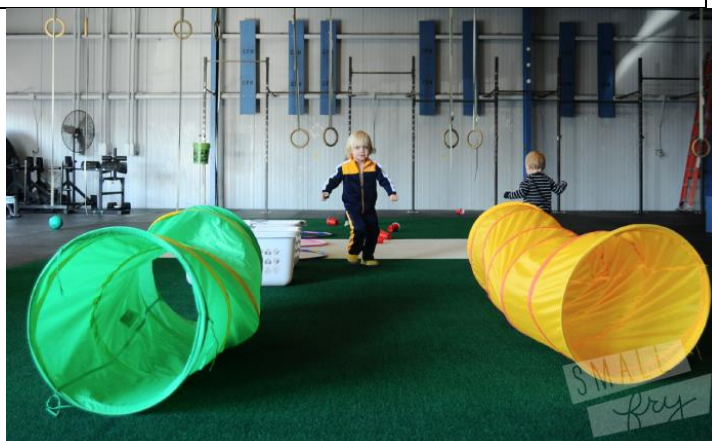
Task 4:

- Develop a number line diagram of your obstacle course by dividing your number line into different obstacles.
- Label your obstacles on the number line using fractional labels as to how far into the course is the starting point of each obstacle.
- Label the parts that are aerobic.
 - Explain what fraction of the course is aerobic and what fraction of the course is not.
- Analyze if any of your parts of the course are or are not equivalent in size.
 - Explain how you know they are equivalent or not.
- Is the aerobic part greater than the parts that are not aerobic?
 - Explain and prove your thinking with words and or pictures.



Students can draw pictures

aerobic



Jump rope (A) $\frac{0}{8}$ ○

Start line

Crawling $\frac{1}{8}$

Hurdles (A) $\frac{2}{8}$

Tires (A) $\frac{3}{8}$

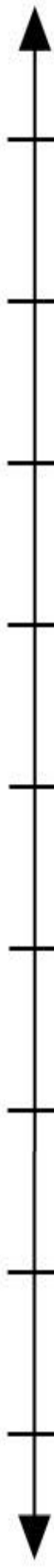
Climbing Ramp $\frac{4}{8}$

Balance Beam $\frac{5}{8}$

Running (A) $\frac{6}{8}$

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Finish line



Task 4: *answers and explanations may vary*

$\frac{5}{8}$ of the course is aerobic. The running, tires, hurdles, and jump rope are the aerobic part of the course.

There are 8 total sections of the course and 5 of them are aerobic which is $\frac{5}{8}$. $\frac{3}{8}$ of the course is for coordination. There are 8 total sections of the course and 3 of them are non-aerobic. I know this because I counted the sections on the diagram.

The balance beam, climbing ramp, tires, hurdles, crawling, and jump rope are each $\frac{1}{8}$ of the course.

They each are of the same fractional part. I know that they are equivalent because they cover the same size part of the obstacle course. I know the running part is two times bigger than each of the other obstacles because it covers the same space as two of the other obstacles. Each of the pieces except running are $\frac{1}{8}$ and are equal because they cover the same space.

The aerobic part is greater than the non-aerobic part. $\frac{5}{8} > \frac{3}{8}$ The aerobic part covers more space on the number line than the non-aerobic part.

Scoring Guide 3rd Grade Unit 4: Real World Experience

Name: _____

Meeting	<p>Student develops a number line diagram of the obstacle course</p> <p>Student labels the number line with the appropriate fractional labels for each obstacle</p> <p>Student labels parts that are aerobic correctly</p> <p>Student explains fractional part that is aerobic</p> <p>Student explains fractional part that is not aerobic</p> <p>Student analyzes the course and identifies equivalent parts of the course</p> <p>Student explains how he/she knows the parts are equivalent or not equivalent</p> <p>Student identifies if the aerobic part is greater or less than the non aerobic</p> <p>Student proves their thinking about comparing the aerobic portion with words and or pictures</p>
Developing	Meets 7 of 9 criteria
Beginning	Meets less than 7 criteria

Comments: