

Project Title: Starting a business

Curriculum area: Mathematics

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Grade Level: 4

Time required: 60 minutes

Instructional groupings: Groups of 6-8

NCTM

Content Standards: Number and Operations

Process Standards: Understand the place-value structure of the base-ten number system and be able to represent and compare whole numbers and decimals; recognize and generate equivalent forms of commonly used fractions, decimals, and percent's.

NB Mathematics Curriculum Grade Four

GCO: Number (N) Develop number sense

SCO: N9. Describe and represent decimals (tenths and hundredths) concretely, pictorially, and symbolically. [C, CN, R, V]

N10. Relate decimals to fractions (to hundredths).

Overview

Today's lesson will begin with an in-depth presentation about what the project students are going to begin it. The teacher will begin by stating the purpose of this project and giving a concise overview of what the project is building up to. It is important to stress to the students that this project will take time to construct and we will be taking things on phase at a time; it will be a slow progression. Furthermore, the teacher should be clear that this is a multi-disciplinary project in which Mathematics is the core subject area, but there are significant Language Arts component to this project. After the teacher has finished explaining to students what they need to know about the business project, students will meet with their team members (which as pre-determined by the teacher) and spend some time brainstorming business ideas. The last 20 minutes of the class will be spent doing a concise review of what the students learned about fractions in grade 3.

Purpose/Objective

The purpose of this lesson is to introduce students to the developing a business project they are preparing to begin. By the end of the lesson the students will have a firm understanding that a fraction represents a whole (a concept that was introduced in grade 3).

Assessment

There will be no formal assessment for this lesson. Students will simply be assessed on whether or not they have completed the in class work.

Materials & Preparation

Each student will need:

- Pie-Chart Template

The teacher will need:

- Whiteboard/SmartBoard and markers
- Pie-Chart Template for SmartBoard

What/how will I differentiate?

This lesson is the introductory to a major project. Businesses will be created in groups to allow students to help one another grasp challenging concept. This project has been created to accommodate students with a range of multiple intelligences (linguistic, spatial, bodily kinesthetic, musical etc). All students should feel that they can succeed in this informal and hands on learning project. Students who are learning at a level below grade level will be encouraged to participate depending on the level of understanding of the student. If there are students who cannot participate in this project because of a serious learning disability, a modified version on this project should be created by the teacher.

Activities and Procedures

1. The teacher will spend the first 20 minutes of the lesson explaining the project that the class is starting. This will simply be an overview and highlight the key areas of the project such as:
 - Students will work in teams of 6-8 (which are pre-determined by the teacher) to develop a business
 - Businesses will sell real products and create a profit
 - Students will apply the math skills they learn in class to calculate, track, predict and manage their profits
 - Group members will be required to create newspaper articles, flyers, podcasts, radio shows, songs, raps, presentations ect to sell their product to their targeted audience
 - Time will be given in class to physically create the products students are going to sell
 - Each business will get to select a non-profit organization to donate their profits too
2. After the brief explanation of what is to come the teacher will answer any outstanding questions from the students. The students will then be divided into groups.
3. Students will be given 20 minutes to discuss with their teams and brainstorm ideas for their project. During this time students are expected to come up with a product

they want to sell, a company name and decide on where they want their profits to go. If groups do not reach their decision today than they will have to complete this for homework.

4. After the 20 minutes of working in their groups, students will return to their desks. The teacher will now begin a brief lesson on fractions. Students will be given a pie chart, which represents a whole and be asked to conduct a survey among the class. Students will then transcribe their data, using fractions, proportionally onto their charts. Illustrate an example on the SmartBoard. Sample:

What is your favorite animal?

Tiger	2
Koala	3
Penguin	7
Monkey	5
Zebra	2
Other	1

Total: 20 Students

Fractional Portions:

Tiger: $2/20$

Koala: $3/20$

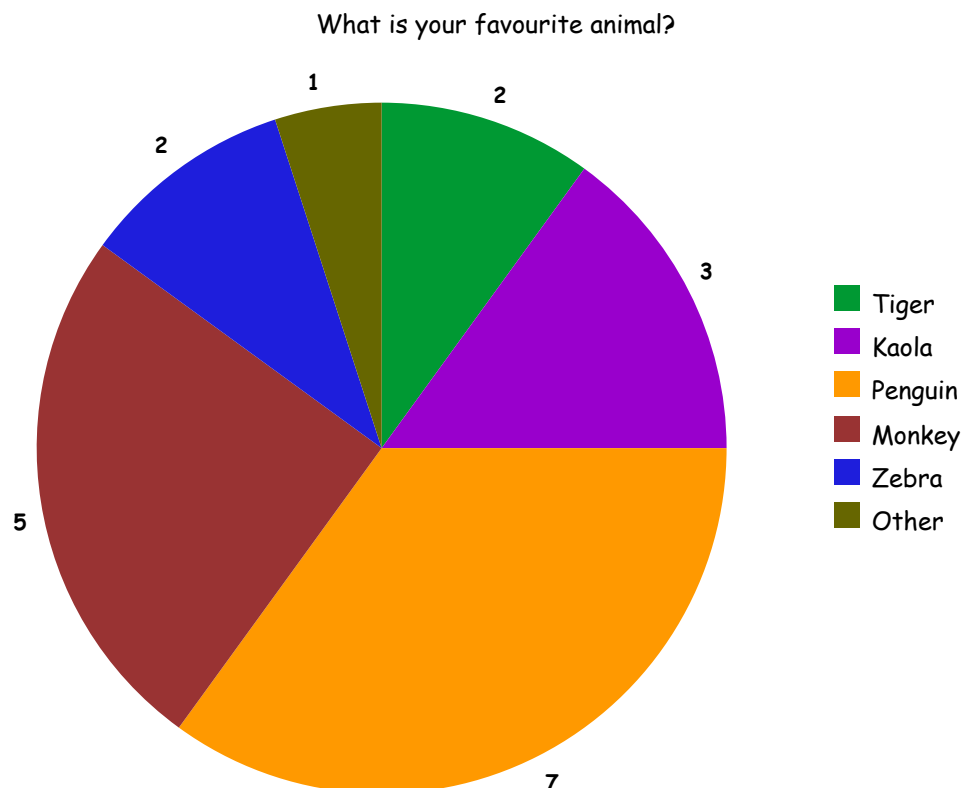
Penguin: $7/20$

Monkey: $5/20$

Zebra: $2/20$

Other: $1/20$

Pie Chart:



5. Answer any questions students may have. Now students will be asked to complete their own surveys. Students should have sufficient time to complete this task during class time- if students are struggling with this activity than this is an indication that a more in-depth review of fractions is necessary the following day.

Follow up

1. Check for understanding. Do students understand the basics of analyzing data and representing numbers fractionally?
2. The teacher will collect all the assignments at the end of class and check for understanding. Although this in-class assignment will be marked based on completion, the teacher must check for students level of understanding of fractions. This is an important first step for the creating a business project.