



# The Centsables®

## GRADES 3-5 LESSON PLAN



### Lesson topic

Automated Teller Machines (ATMs) and a safe Personal Identification Number (PIN)

#### Instructional Objectives

Students will be able to:

1. Describe what an ATM is
2. Explain what a safe PIN is
3. Create a safe PIN

#### Essential Question

Why is using an ATM like a lesson in personal financial safety?

#### Financial Literacy Standards

##### **National Standards for Financial Literacy, Council for Economic Education:**

- **Standard II, Buying Goods and Services,**
  - **Benchmarks: Grade 8, (3) People choose from a variety of payment methods in order to buy goods and services.**

##### **National Standards in K-12 Personal Finance Education, Jump\$tart Coalition for Personal Financial Literacy:**

- **Standard 3: Describe how to use different payment methods.**
  - **Planning and Money Management**

#### Materials



- **A large display visual of an ATM keypad.**
- **Create Your Own PIN work sheets**
- **Index cards or pieces of paper cut into uniform size pieces in batches of numbers one through zero (1,2,3,4,5,6,7,8,9,0), enough for students divided into pairs to use**
- **Envelopes - enough for students divided into pairs to use**

## Motivation

### Say:

- Have you ever wanted a snack or a treat, and put your money in a vending machine and - PRESTO - out it comes!
- Many of those snack vending machines have a small keypad with numbers and letters on them and you have to push the combination that matches the number and letter you see in the machine in front of your snack choice. For example that bag of chips might be E5, so when you push the E key and the 5 key, out comes the snack!
- Wouldn't it be great if you didn't have to put your money in the machine? What if you had a secret code and could just use the keypad to type in your code and get the snack without using money? Well you can't! But you can use a secret code to use a very important machine!

## Learning Activity

### Say:

- Today we are going to learn about ATMs! Does anyone know what the letters A-T-M stand for? (Automatic Teller Machine)
- Have you ever been with an adult or older brother or sister when they went to an ATM? If you have, it almost seems to work like one of those snack vending machines with the keypads-and you don't even have to put money in. In fact, people use ATMs to take money out!
- There is one really BIG difference between a snack vending machine and an ATM (well, there's really more than one big difference . . .). If you can think of where many, many ATMs are located (Banks) you might be able to guess what that big difference is.
- ATMs are "connected" electronically or through the Internet (like a computer) to a person's bank! If you want to take money out of an ATM, you are really getting your own money that you have in the bank! (in a checking account or savings account)
- Because people get money out of ATMs, they are also known as "cash machines" (Jump\$tart Coalition)!
- Here's another cool thing about ATMs. When someone uses an ATM they must have a secret code! Does anyone know what that secret code is called? (Personal Identification Number or PIN)
- In a few minutes everyone is going to learn how to create their very own PIN!
- Remember that vending machine with the keypad? Well, your secret PIN code is going to need more than an E and a 5 to get money from an ATM.
- First we'll learn how not to make a PIN and then how to make a good one!



**Do:**

**Distribute your own PIN worksheets, display a large demonstration version.**

**Say:**

- Where have you seen this before? (It looks like a telephone!)
- If you said on a telephone, you're right! A telephone keypad is very similar to one on an ATM or cash machine!
- ATM secret codes, or PINS, are created with four numbers.



**Do:**

**Model the following examples of how not to create a four number PIN referring to the large keypad visual**

**Say:**

- Don't use your birthday to create a PIN! If someone knows or can find out what your birthday is, they might have an easier time of cracking your PIN code! For example if your birthday is October 17, someone might figure out that your PIN is 1017; where the 10 stands for October, the tenth month, and 17 is the day.
- Some other Don'ts for creating a safe PIN: don't use numbers in sequence, e.g., 1234, 9876, etc., don't use the same number four times, e.g., 1111, 7777, etc.
- Don't use a common word like, LOVE, spelled out with numbers on the keypad. Explain that "L" is found on the 5 key (JKL), "O" is found on the 6 key (MNO) and so on.
- A very important Don't is don't write your PIN down anywhere! Memorize it! Can anyone guess why? (If you write it down, you might leave it someplace where it can be found or you could lose it and someone could find it.)
- So how can we create a PIN that is safe to use and hard to guess?
- The advice given by bankers is to choose four numbers at random for your PIN and memorize them! (If necessary explain that random means "by chance" or "not in any specific order")



**Do:**

**Distribute envelopes containing numbers one through zero to each pair of students.**

## Independent Activity

- Students will take turns drawing four numbers from the envelope until each pair of students is satisfied that they have a random, mixed up, number that could be used for a PIN.
- As a challenge and to check their work, have students use the keypad visual to be sure that their random number PINs do not spell a word, a name, or a month/day combination.
- Check to see if any students have the same combination of numbers. If so have them keep drawing numbers until all PINs are different.

## The PIN Fish Game



**Do:**

**Give each student an envelope of numbers and a small sheet of paper and pencil to keep score.**

**Say:**

**– We’re going to play a game. It’s a lot like “Go Fish.” We will discover how easy – or hard – it is to guess each other’s secret PIN code numbers.**



**Do:**

**Have students work in cooperative pairs. Each students should take four numbers from the envelope, until they’re satisfied that they have a random, mixed up, number that could be used for a PIN.**

**As a challenge and to check their work, have children use the keypad visual to be sure that their random number PINs do not spell a word, a name, or a month/day combination. Tell them to remember their own numbers, and not to let you or any other players know what they are.**

**Once the numbers have been drawn, begin the game.**

## How to play

- Each player puts his/her 4 numbers face down on the table. The object is to try to guess the other person's numbers. The order of the numbers does not matter.
- If there are more than two players, you must guess the numbers of the person on your left, with play going around the table clockwise.
- If you guess a number correctly, the player must turn it face up. If you guess wrong, you must write "F" on your worksheet. Each player gets only one guess per round, then it's the next player's turn. Second wrong guess earns you an "I." Four wrong guesses add up to FISH, and the game is over.
- If a player guesses all four numbers before earning FISH, the game is over.
- At the end of the game, discuss how hard it was to guess all the numbers. Then remind children that a PIN requires the numbers to be in a particular order. So not only would thieves have to guess the four correct numbers, they'd also have to guess their order, or sequence.

## Bonus Challenge

*Each player secretly puts their four numbers into whatever sequence they want, and places them face down.*

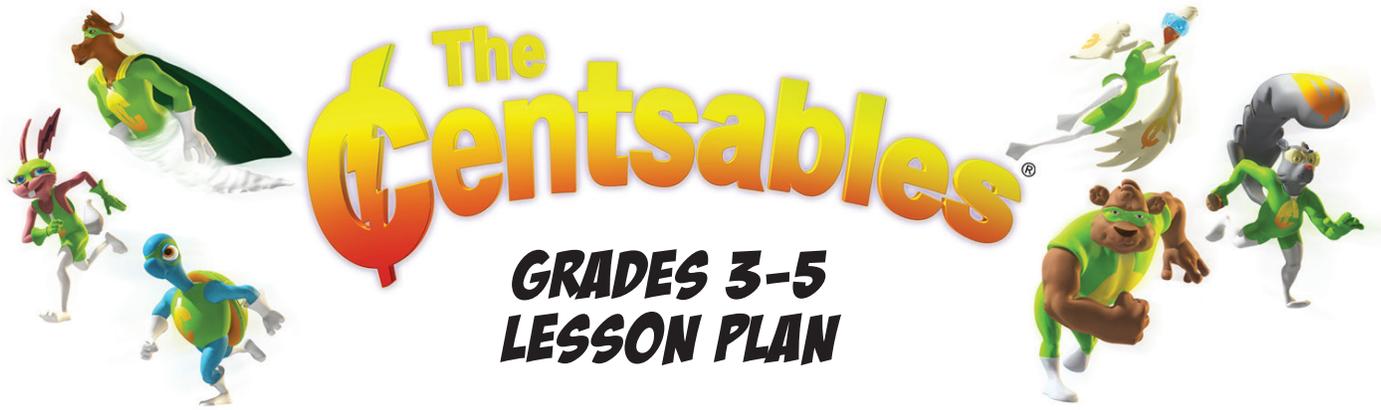
*The object now is to guess the four-digit number in the proper order.*

*Each player gets one guess per round, and each wrong guess earns a letter, until FISH has been spelled out, or until the correct code has been guessed.*

## Closure/Summary

Students should be able to answer the following questions:

- What is an ATM? (Automatic Teller Machine)
- What is a PIN? (Personal Identification Number)
- How do we know that a PIN is a safe PIN?
- Elicit some examples of safe, random number PINs and ask the class how they know that they are. (They do not spell a word or a name, or could be a month/day date.)



## Go PINfish

Check the secret PIN numbers you choose against this keypad to make sure you haven't spelled a word, name, or special month/day combination.

If you did, put them back in the envelope and pick again.



## F - I - S - H for PINs

Try to guess the other player's secret PIN numbers. For each wrong guess, you must write a letter on the blank, until you have spelled F-I-S-H.

When the entire word is spelled out (or if you guess all the other player's numbers first) the game is over.

