

# Math Lesson

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## About This Lesson

### DESCRIPTION

This is a 1st grade classroom, so everyone is between the ages of 6-7 years old. The content area of this lesson is mathematics. The classroom has access to computers at anytime, as well as white boards, notebooks, and a promethium board.

Jake is one particular student who has a low incidence disability which I have seen based on his needs so far. He is considered legally deaf, and has a hearing assistive technology system (HATS) which helps him get through the day. One of his strengths is group work. As long as he is given strict instructions, and he is able to use the HATS, he has no problem completing his part in the project and getting the full credit. Jake loves interacting with his classmates. However, Jake needs help completing his individual work at a timely matter and would benefit from a teacher/aide that knows sign language.

Bob is one student in my class has a high incidence disability; he is on the autism spectrum. He needs a aide with him throughout the whole day, as well as access to a computer. He does most of his work on the computer because his teacher found that he does tremendously better when he watches videos online about the lesson rather than listening to her teach. He has lots of strengths, one of them being that he has one of the highest reading levels (way above his grade level) out of most his classmates. Bob needs a very structured routine and a "cool down" place in the classroom. Bob has a very limited speech abilities, and when he is able to communicate with others he gets very frustrated.

Erika is a student that is considered an ELL is very quiet and doesn't talk to anyone in her class. She struggles with the basics of each subject, like punctuation and word choices. Her greatest strength is how positive she is. She never gets discouraged or upset, which is surprising because of the hard situation she is in. Specialists pull her out of the classroom periodically. Erika needs some one-on-one classroom instruction and modifications throughout the day. For example, during ELA when her class reads a story aloud, she listens to the story in Spanish on her device.

Jill is a student that has been identified as Gifted and Talented and is above her classmates in every academic area. She has very good social skills, always participates in class, and gets her work done. Her strength is explaining how she got her answer. This is so ideal for a teacher because she helps her classmates out when they are struggling. Jill does need some special individual assistance like more advanced work. Many of the lessons are to easy for Jill, so the teacher has to assign her more challenging work on the same topic.

### PREREQUISITES

In order for the students to be successful, they should have some previous knowledge on the place value system.

### ESTIMATED TIME

1 hour

## Potential Use

**PURPOSE:** Classroom Instruction, Coaching, Small Group

**GRADES:** 1 - 3

**CONTENT AREAS:** Math

**COMMON CORE:** **Mathematics**

- **Number and Operations in Base Ten**

Understand place value.

**CCSS.Math.Content.2.NBT.A.1** (grade 2):

Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

**CCSS.Math.Content.2.NBT.A.4** (grade 2):

Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

## Goals

### INSTRUCTIONAL GOALS

Students will demonstrate their understanding of the place value system by recognizing that the three digits of a three-digit number represent the amounts of hundreds, tens, and ones and compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits using  $>$ ,  $=$ ,  $<$ , symbols to record the results of comparisons.

### OBJECTIVES

- I can correctly identify the different place values in a three-digit number.

### VARIABILITY

#### Variability Part 1

Supports that will be put in place in the classroom to provide options for engagement, representation, and action and expression are:

**Engagement:** All classes will end by each student saying their favorite memory from the day, self-assessment and reflection will take place each day (verbal or written), lesson plan relevance will be explained thoroughly as each content area is taught, feedback from a teacher in the classroom will be detailed and frequent, students will be given the option to use computer or hand write their work, table points will be given out, dojo points will be used during the day

**Representation:** All class materials are organized in a three ring binder, students will have previous knowledge of the topics, patterns, big ideas, and relationships will be broken down by the class as a whole, students have access to content on many different multimedia, vocabulary is emphasized

**Action and Expression:** Objective and goals will clearly be stated for the day, planning and strategy will be emphasized though checklists, rubrics, etc., students will have the option to view their progress in a chart that only the teacher and the student has access to see, digital resources like computers and iPads will be available every day, students have access to low tech kits like pencils, white boards and erasers on a daily basis

#### Variability Part 2

**Jake**, the student who is deaf, has both a high and low tech tool to help him succeed academically. The high tech tool is the hearing assistive technology system, which makes it easier for him to hear what is going on in his classroom. His low tech tool is practicing his communication skills with his classmates at least one time a day.

Jake has one accommodation that will be implemented in this lesson. He will have a his tasks/work broken down into measurable tasks. This will help him complete his work on time. A modification that Jake will have is that he will be given less questions on a test/quiz. This will make it easier for him to complete his work.

**Bob** has the high incidence disability, autism. He also has a high and low tech tool to help him in school. His high tech tool is the Accent 1400 (from PRC), is a speech-generating device (SGD). On this communication device, he has different words and pictures that he can press during the day to communicate with classmates and his teacher. This system allows him to better express his needs, wants, and ideas. Bob's low tech tool is a cool down center where he can gather his thoughts and emotions before he goes back to his work. This will help Bob as well as the rest of his classmates throughout the day.

Bob's accommodation is that he is given extra time to complete the test or quiz. Bob is very smart, however the extra time allows him to check over his work. The modification that Bob has is a daily individual visual schedule. This individual schedule allows Bob to have the structure he needs.

## Assessments

### FORMATIVE ASSESSMENTS

**I can correctly identify the different place values in a three-digit number.**

- **Kahoot** (high tech) game will be facilitated by the instructor. The Kahoot will be made with selected response (true/false, multiple choice, etc) questions to monitor the students progress and understanding of the place values. Kahoot will give feedback to the students immediately after everyone answers the question.
- Student's will have the option to use a **white board** (low tech) instead of Kahoot, this will also check their understanding of place values. The students will answer the same question that are on the Kahoot. The teacher will also provide immediate feedback after the question.

- **Quick checks** will happen frequently in the lesson. The quick checks will help the students stay alert/on task and check for understanding. The teacher will ask the students to put their thumbs up or thumbs down after she asks a question.

## SUMMATIVE ASSESSMENTS

A quiz on place values in three-digit numbers and comparing two three-digit numbers based on hundreds, tens, and ones will be given at the end of the unit. This will assess the depth to which the students have learned the skills taught over the weeks. A study guide will be given 3-4 days before the quiz for the students to complete. They will also have time in class to ask the instructor any final questions they have before the quiz is administered.

- Due to Bob's accommodation, he is given extra time to complete this quiz.
- Because of Jake's modification, he will have fewer questions on the quiz.

## Instructional Methods

### OPENING

Before beginning the lesson, the teacher will give Bob his daily individual schedule (his modification). This will show him what the day is going to consist of. Bob will also be instructed that he can go to the cool down center at any point during this lesson (low tech tool)

#### Introduction

1. *Clearly read and break down the goal*

The purpose of this is so the students know where their academic understanding should be by the end of this lesson.

- "What words do you recognize in this objective?"
- "Does anyone know what place value means?"

2. *Class discussion on student's prior knowledge on place values in numbers*

(discussion strategy)

I will be the facilitator, by leading the class discussion. I am trying to gauge the student's prior understanding (if any) of place value systems.

- "Can anyone tell me the place values in the number 13?"
- "Can you name one place value?"
- "Is there anyone in the class that has never heard the phrase 'place value' before?"

I will give Bob and the rest of the class the option to use white boards to write down their answers to the questions. This will help Bob because he has a hard time verbally communicating his answers. It will help the other students in the class because some of them are to shy or scared to participate in class.

### DURING

Transition: "We will now have a quick lecture on place values. Please make sure you are paying attention."

3. *Introduce New Knowledge*

Begin the lecture on place values. A PowerPoint will be given as a visual for the students who prefer that. Bob will be given a video on place values to watch, if other students would prefer that they can watch the video lecture also.

(question and answer strategy)

- "So can anyone tell me what place value means, in your own words?"
- "What place value is 3 in the number 23?"

Bob, the student who is autistic and has trouble communicating, can use his SGD device to participate in this question and answer part of the lesson plan.

I will play a quick video explaining the concept again. This will give the student's two different opportunities to learn the lesson.

- The video will have subtitles so Jake, the student who is deaf, will be able to know what is said in the video. The subtitles will also help the rest of the class in case the video is going too fast, or they can't understand the person who is speaking in the video.

#### 4. Model New Skills and Knowledge

I will model what is expected of the students when finding the place values in three-digit numbers. This model will be done on the board, so all the students can see.

I will also write the things the students will need "to be successful" on the board. This will act as the students rubric. The students can refer back to this at any time in their individual work.

#### 5. Check for Understanding

I will check for my students understanding by completing a few sample problems as a class. Students can get white boards from their low tech kits, or can use their devices to go on Kahoot (high tech) to share their answers.

- The teacher will provide the students with three, three-digit numbers and they will have to write their answers on the white boards or enter their answers into Kahoot.
- Bob, the student who benefits most from completing his work on the computer, will complete the work on Kahoot. This not only benefits Bob, but the rest of his classmates who also prefer to complete the work on computers.

#### 6 Questioning Strategies

I will advance the lesson by giving the students four-digit numbers and five-digit numbers.

- "Can you figure out the place value in this four-digit number?"
  - "How did you get your answer?"
  - "What about this five-digit number?"

Jill, the gifted and talented student in the class, will take advantage of this part of the lesson because she can challenge herself with the harder work. Jill isn't the only one of her classmates to benefit from advancing the lesson, the rest of her classmates will as well. They can all be challenged and have a glance of what they will be learning in the future.

#### 7. Station Teaching

During this section, Jake will be given different opportunities to talk with his classmates. This is Jake's low tech tool.

The teacher will create three stations, and split the students up into three groups. The groups will have 7 minutes at each station.

Station 1: Independent practice

(drill and practice strategy)

- Student's complete a worksheet to reinforce the lesson on place values. The students will complete this individually at the desks.
- Jake will be given the same worksheet, however his work will be broken down into sections for him. This is Jake's accommodation.

Station 2: Game station

- The small group will be split in half and they will compete against each other to see who can guess the underlined place value first. If they get it correct, they will get a point. The team with the most points wins.
- Jake, the student who is deaf, can use this hearing assistive technology system (high tech tool) during this game. This will help him understand what his teammates are saying, so they can try to get the most points. This not only helps Jake, it helps the rest of the students in his small group because they have an extra teammate.

Station 3: Small teacher instruction

(inquiry based learning)

- I will be guiding and supervising the mini lesson on place values.
- Erika, the ELL student will really benefit from this small group lesson because she can have the attention and help from her instructor that she needs. Not only does Erika benefit from this, but the rest of the class does as well. They all get that special attention they need to learn the concepts.

## CLOSING

### 8. Review

**Transition:** "Times is up. Will you please clean up your station and head back to your desk? I will come around and collect the worksheets you completed in station 1."

Learning goal will again be displayed on the board. I will read it to the students.

- "Put your thumbs up if you think we have met our goal for today."
- "Put your thumbs down if you think we haven't met our goal for today OR you still don't understand place values."
- "Can anyone think of a time where we might need place values again?"

I will hand out a study guide for the quiz on place values.

- "In 4 days, you will take a quiz on place values and comparing two three-digit numbers. This will show me how well you understood this unit."

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## Author's Reflection

*I have gained an understanding on the UDL framework from completing this lesson plan. UDL is a set of principles for curriculum development that gives all individuals equal opportunities to learn. The UDL framework wants to reduce the barriers and optimize the levels of challenge and support that the students receive from the start. It is the opposite of a "one-size-fits-all" solution, so the UDL curriculum works for everyone and can be customized/adjusted for individual needs. With all this said, the UDL guidelines allows the teachers to meet the needs of a diverse group of students. In addition, the CEC Standard 3, curricular content knowledge worked hand and hand with the UDL framework in this lesson. I used the standard and the UDL framework to create the lesson plan.*

*CEC Standard 5, instructional planning and strategies, has served a huge purpose in this UDL lesson plan and in every other. They provide different ways for the students to learn and take in the information given to them. Since a classroom is made up of all different learners, I understand how important it is to take advantage of these strategies during all lessons.*

*I learned that instructional technologies are key to some students academic success. Throughout this course, I learned so many different instructional websites, games, etc. that I used in this lesson and plan on using in the future. For example, I learned about the website Kahoot and I incorporated that into this specific lesson plan. Some students learn better from instructional technologies like games, rather than completing a worksheet individually. That is why I know it is really important to also give my future students the option of having instructional strategies.*

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## Materials

### MATERIALS AND SUPPLIES

- Worksheet for station 1
- PowerPoint for lecture
- Short video clip for lecture
- Whole lesson on video (for Bob)
- White boards and markers
- Math journals
- Numbers for game station
- SmartBoard

### RESOURCES INCLUDED

[Kahoot](#) Web Page

**Why it's included:**



It is my formative assessment

0 0 Last Updated: April 22 Shared: Individual (1)

### [Hearing Assistive Technology System](#)

#### **Why it's included:**

This is the high tech tool for an individual who is deaf

0  0  | Last Updated: 2:43PM Yesterday | Shared: Individual (1)

### [Communication](#)

#### **Why it's included:**

This is the low tech resource for the student who is deaf.

0  0  | Last Updated: 2:43PM Yesterday | Shared: Individual (1)

### [Speech- Generating Device](#) Web Page

#### **Why it's included:**



This is a high tech tool for a student who has autism.

0  0  | Last Updated: 2:47PM Yesterday | Shared: Individual (1)

### [Calm Down Center](#)

#### **Why it's included:**

This is a low tech tool for an individual that has autism.

0  0  | Last Updated: 2:49PM Yesterday | Shared: Individual (1)

## Author's Reflection

*CEC Standard 1, learner development and individual learning differences was used many times throughout creating this lesson plan. I realized that teachers should take advantage of technology when trying to support learner development and students with individual learning differences. Technology supports variability because it gives students so many different options in the classroom. Instead of having a student writing out all their work, you can have he/she type and instead of reading the story you can listen to the story on the students personal devices. ELL students specifically can benefit tremendously from technology because the computer can translate the English to the students language, and vice versa. GT students would also be able to use technology to have more access to higher level research and information.*

*When selecting the assistive technologies to support students with IEPs, I used the UDL framework to help me pick the tools. When doing this, realized how important it is to make the correct selection. All students with IEPs are different in some way, therefore you have to know what works for the student and what they need help with. The selection should also be appropriate and depend on what their disability is. It is very important to find the assistive technology that will make the student succeed in the classroom.*

*Identifying a student with communication needs is essential because communicating with classmates and teachers is such a big aspect of school and life. Therefore, if we help the students communicate at a young age, it will help them in the future.*

*The two students with disabilities identified in my lesson plan required additional supports because they wouldn't be able to reach the lesson goal without them. For example, if Jake didn't have someone writing down the notes for him, he wouldn't know what his teacher was saying and teaching.*

*The high and low tech tools for both Jake and Bob were selected for a specific reason. Jake is legally deaf, therefore he needs a high tech tool, HATS, that can help him hear. When you are deaf, you struggle to talk because you learn how to talk by listening. Therefore, Jake's low tech tool was a pen and paper so he can communicate and talk with his classmates and teacher. Bob's high tech tool was a voice output communication device because he also struggles with communication. Individuals with autism suffer from a lack of communication skills. Bob's low tech tool was a white board so he has another way of communicating with classmates and his teachers.*

## Comments