Unit Plan

Teacher Candidate Name: Joel Michael Pope
Unit Name: "From Number Sense to Operations"
Subject Area: Mathematics
Grade Level(s): Kindergarten (aged 5 - 6)

Curriculum Map on which unit belongs is found here.

This Kindergarten is in China and students have English as their second language. English levels vary in the class from being at a level where they are beginning to be able to communicate and can understand everyday information and lesson content if simple and exaggerated language is used, and with contextual support, to high fluency, where students can communicate and understand information with few barriers.
The unit content will be taught largely in English. For student creation, their first language can be used if necessary.

Although we will incorporate more structured classes into this unit, our philosophy is that of student-emergent projects and small group activities. This will be incorporated into the lesson structure. There will also be other times throughout the day to continue to work on the project activities here, which may need more time.

Introduction: *What will students learn in this unit and why is it important? Describe the theme and student outcomes, including guiding questions and real-world connections.*

Unit Introduction
This unit marks the first big step into arithmetic. Students will previously have developed their counting skills. They will have developed their number sense through understanding and ability to show what a written digit represents. In the previous unit, they began to explore through word problems and representations how numbers can be added together and taken away from to give a new number, with real world application. Some students will have had more exposure to arithmetic through their past experiences, some less. Here they build confidence with arithmetic to 10. They represent additions and subtractions in a number of ways, including use of fingers, movement, drawings and physical objects. Through a range of contexts and application to the senses in different ways, this helps them build awareness that it is applicable in all situations and deepen their understanding. They practice solving real-life problems. Slowly, they move from the concrete to the abstract as they are introduced to arithmetic equations with digits and symbols. The connection should be slow and emphasized so

that students can remember that those arithmetic equations do have context.

As students master skills, there will be the opportunity for extension with larger numbers. Students alternatively may need time to build the skills. This is fine, as work will continue in the following unit and beyond. It is important that time is taken here to further number sense and appreciation of arithmetic and its purpose in preparation for future study.

Students will practice creativity and initiative as they represent additions and subtractions in different ways. They can practice communication and collaboration through working together on problems together, real world role-play to practice the concepts. Finally, leadership and communication if they write their own problems for each other. Throughout the unit, students will continue to develop their English as a second language. They will develop their listening comprehension as they listen to word problems being read. Through these, there will also be the opportunity to learn new words. In role-play, they can practice English fluency and different sentence structures.

Depending on their level, there will be the opportunity for literacy development as students read word problems, and write them if they are ready.

Guiding Question(s) and/or Real-World Connections

Consider how you would make the unit relevant to students. What real-world connections or guiding questions would you use to hook your students?

- What is the meaning of the math symbol and digital equations you may have already seen, and will continue to see going forward.

Let's use our developing number sense and engaging experiences and examples - numbers of toys or other objects of interest, drawing and artistic expression, movement - to explore this.

- How can numbers and math be used in real life, to solve everyday problems and find out facts of interest? (Focus on arithmetic.)

Examples can be used based on our own lives and interests:

- Total number of goals our football team scores across matches.
- Total score in any game across different or competition - for example, dance competition with scores.
- Number of items we have collected on different days.
- Total prices of different items in a shop, restaurant, or of tickets.
- Difference between number of boys/girls in different classes.

All these can be covered in project activities.

Project activities and lesson content can be adapted slightly based on the individual interests of the students.

(Problems with bigger numbers can also be included, even if students need to work together, or with the teacher to solve them at this stage, to help show the broader applications of addition and subtraction.)

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Standards: *What are the standards or curricular outcomes of this unit as provided by your school, district, or government? Add all applicable content-area standards,including cross-curricular standards. (Add rows as needed.)*

Content Area	Standard(s) Addressed
Mathematics Common Core Mathematics Standards	K.CC.A3 - Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). K.CC.B4 - Understand the relationship between numbers and quantities; connect counting to cardinality. K.0A.A.1 - Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. K.0A.A.2 - Solve addition and subtraction word problems, and add and subtract within 10 (0 - 10), e.g., by using objects or drawings to represent the problem. K.0A.A.3 - Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). K.OA.A.4 - For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. K.OA.A.5 - Fluently add and subtract within 5.
English Language Arts Common Core English Language Arts Standards	The following are not directly addressed in the units, but the skills or knowledge relating to each have the potential to be practiced during class and project activities. RL.K.4 - Ask and answer questions about unknown words in a text. *(Looking at word questions.)*

	RF.K.1.A - Ask and answer questions about unknown words in a text. RF.K.1.B - Recognize that spoken words are represented in written language by specific sequences of letters. RF.K.1.C - Understand that words are separated by spaces in print. *(With regards to the above three, students will be exposed to the written form of word problems.)* W.K.3 - Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened. *(When students make their own word problems.)* SL.K.1.A - Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). SL.K.1.B - Continue a conversation through multiple exchanges. *(Through asking each other questions and role-play activities.)*

Overarching Goals: *What are the big-picture goals for student achievement and mastery in this unit? Orient these goals around overall student skills, growth, and development. Your unit objectives should be derived from these goals.*

- Students will be able to represent and then solve addition problems within 10 (whole numbers 0 - 10) using at least three different methods.
- Students will be able to represent and then solve subtraction problems within 10 (whole numbers 0 - 10) using at least three different methods.
- Students will be to apply their knowledge of addition and subtraction to solve word problems for both addition and subtraction to 10 with the support of the teacher reading the question and providing EAL support for meaning as necessary.
- Students will be able to both add and subtract within five automatically.

- Students will be able to create a portfolio of three different representations they have done of arithmetic problems within 10 (whole numbers 0 - 10).

- Students will be able to collaborate with classmates both in a role-play activity and playing games to practice arithmetic.

- Students will be able to create their own word problems for addition and subtraction, using at least one of speaking, drawing, dictation and writing.
- Students will be able to communicate a question they have created to classmates.

- Students will be able to write addition and subtraction problems to 10, using written digits and equations.

- Students will be able to articulate addition and subtraction equations within 10 (whole numbers 0 - 10), using English, including the words “plus”, “minus” and “equals”.

Objectives: What are the lesson objectives for this unit that will lead students to complete specific tasks and meet the overarching goals. Objectives should use language that is specific, measurable, achievable, relevant, and timely (SMART).

Content-Area Objectives
• Students will be able to use at least two different methods out of drawing, fingers, clapping, using physical objects, writing an arithmetic equation, or another method agreed with the teacher to represent and then solve an additional problem within 10 (whole numbers 0 - 10). • Students will be able to use at least two different methods out of drawing, fingers, clapping, using physical objects, writing an arithmetic equation, or another method agreed with the teacher to represent and then solve a subtraction problem within 10 (whole numbers 0 - 10). *21sr century skills of initiative and creativity can also be practiced here, alongside the subject content.* • Students will be able to correctly solve four out of four addition problems within 5 (whole numbers 0 - 5), each within 20 seconds. • Students will be able to correctly solve four out of four subtraction problems within 5 (whole numbers 0 - 5), each within 20 seconds. • Students will be able to correctly solve three out of three addition word problems within 10 (whole numbers 0 - 10). • Students will be able to correctly solve three out of three addition word problems within 10 (whole numbers 0 - 10).

Literacy Goals: How does this unit support students' language and literacy development? Include literacy skills, key vocabulary, and 21st-century skills (i.e., critical thinking, creativity, collaboration, communication, information/technology literacy).

Literacy Skills
Literacy Skills Objective: - All students will be able to write two addition equations within 10 (numbers 0 - 10) using the numbers, and the symbols "+" and "=", being able to look at symbols for reference of how they look if necessary. - All students will be able to write two additional equations within 10 (numbers 0 - 10) using the numbers, and the symbols "-" and "=", being able to look at symbols for reference of how they look if necessary.

There are no further specific literacy objectives for the unit.

When word problems are looked at however, they will be ready together with the class, developing text awareness. Some letters to sound relationships or text features from phonics will be highlighted during this time for natural exposure and teachable moments.

Students are at different levels of English reading and writing development.

Based on our educational approach at the kindergarten, those who are ready can be supported to read and write all or some of the word questions independently during individual work.

Vocabulary

English words and phrases:
"plus", "minus", "equals"

"use your fingers"
"draw"
"use (object name)"
"make"
"show me"

"arithmetic"
"word problem"

Words that may come up in word problems studied.

21st-Century Skills

Creativity, initiative (representing addition and subtraction problems in different ways)

Communication, collaboration, social skills (working together to practice arithmetic in games, role play activities).

Creativity, communication, leadership (creating own word problems, and then presenting them to each other).

Technology literacy (students will have the opportunity to document their own project activities during the unit, through taking photos and videos).

Further 21st-Century Skill objectives:

- All students will be able to create one real-life problem for addition or subtraction to 10 and represent it using either writing, dictation, drawing or speaking in a video.

- All students will be able to present or show their word problem to at least one other student for the student to attempt to answer, and then verify if the student is correct or not.

- All students will be able to participate in a real world role-play in English, where they are asking an arithmetic problem within 10 (numbers 0 - 10) and they contribute at least two exchanges to the conversation, with an average of no more than one error in the English per exchange. (two exchanges are defined as separate here if the other speaks in between.)
- All students will be able to participate in a real world role-play in English, where they are answering an

arithmetic problem within 10 (numbers 0 - 10) and they contribute at least two exchanges to the conversation, with an average of no more than one error in the English per exchange (two exchanges are defined as separate here if the other speaks in between.)

The two above are also for practicing English language development. (Scaffolding or support will come from the student as necessary based on the student's English level.)

Prerequisite Skills: What skills and prior knowledge do students need before this unit?

- Students should be able to count forwards to and backwards from 10 (starting at 0), with fluency.
- Students should be aware of the correspondence between a written digit and a physical number of objects or counts - for example 7 can represent 7 objects or 7 occurrences of an event.
(The relationship between counting and cardinality.
- Students should be able to recognise the written digits for the numbers 0 - 10 and know the number it represents.
- Students should have an appreciation of the fact that if you have a known physical number of objects or occurrences of an event and add one or more new ones to count, you can count the new ones only, beginning from the number after the total number you had originally.
- Students should have a developing appreciation of the fact that if you have a known count of objects and lose one or more, you can count backwards from the original number the appropriate number of times.
- (English language) Students should be familiar with the numbers 0 - 10 in English.
- (English language) Students should be familiar with instructional verbs and verb phrases related to strategies for representing an arithmetic operation. "draw", "show me", "clap", "make", "use your fingers".
- (English language) Ability to comprehend instructions, questions, or other information, of up to three sentences delivered in English, with only contextual, visual and gesture or action based support, with slower and exaggerated language if necessary.

Note:

Again, based on past exposure and volume of formal instruction, students are at different reading levels.

Some are already to read fluently, texts as high as grade 2 level, and would have little difficulty reading word problems of the type that will be included in the unit.

Others could read the word problems in the unit with little support.

Others only have awareness of introductory phonics and can only read a limited number of whole words.
These different reading levels will be taken into consideration during the teaching and assessment, with scaffolding and differentiation provided.

Assessments: What form of evaluation tools will you use to measure student learning and achievement both at the end of the unit and throughout? Clarify any modifications you would make based on student readiness, ability level, primary language, or interest.

Summative Assessment (Include projects, performances, tasks, or traditional tests you will implement for students to demonstrate that they have met the overarching goals and objectives.)	
Description(s)	Modifications
Students will put together a portfolio, with teacher supervision as necessary, showing three different methods for representing addition problems and three different methods for representing subtraction problems. These can be photos or videos of the work, or the actual work samples. The teacher will support as necessary.	If possible, this will be a physical portfolio. For those who might have included a video, for example, if they have acted out a situation, a QR code to the video link can be included. Depending on previous ability level, students can be encouraged to represent problems with different sizes of numbers, including above 10 for those who are ready.
Throughout the unit, students will complete a written page of two addition and two subtraction problems they have written out at times of their choice.	These can be completed at any time during the unit, allowing student freedom, choice and autonomy. The teacher will monitor as necessary. Considering the prerequisite knowledge of students, some may already have more advanced skill and knowledge in arithmetic; they can be encouraged to write problems with bigger numbers. Others may need to write these under teacher supervision.
Students will work in groups of at least two, to create a role-play situation based on their choice and interests. Examples could be ordering food in a restaurant and buying tickets at a train station. They can then act this out, using English.	Students will have different previous levels of English. Those who need it can be guided to plan and practice the sentences. Others can produce them more freely. Many students in the class enjoy small world role play with toys. This role play can be done with these if students like, allowing further choice. This could also support shyer students.

Students will create a real-life word problem, using either dictation, writing, drawing, speaking into video, or a combination. They then present this to a classmate and verify whether it is correct or incorrect	Students in the class have varying writing levels. Some are already able to write short paragraphs independently. Others are still developing letters and first words.. Although writing isn't a specific requirement here, all students can be required to include some writing in creating their question, based on their level.
During a stations-based activity at the end of the unit, students will answer word questions and fast-paced mental arithmetic within 5 to meet these two objectives; questions answered on paper.	The way this assessment is monitored can be adjusted based on the prerequisite skill and reading level of the students. Those with both developed reading and confidence in the skill, could answer the written questions independently and then the mental arithmetic (within 5) questions, led by the teacher to ensure the 20 seconds. Others could be given varying levels of support with the reading of the question based on their reading level.
Formative Assessments (Include checks for understanding, quizzes, activities, and other progress monitoring as students move toward mastery of the overarching goals and objectives.)	
Description(s)	Modifications
Students will complete a board game in pairs, in which in each square, there are arithmetic problems to be answered. (For example, 6 + 5 = ?)	Students will have different prerequisite knowledge and confidence with arithmetic. There can be different versions of the board game available for this. Students can also work in homogeneous (for math ability) groups or pairs, so that differentiated support can be provided as necessary.
Kahoot! quizzes to practice arithmetic problems. An example is here. Activities, including writing answers on mini whiteboards, or holding up number cards with the correct answer could be used as an alternative to Kahoot!	These can be done in small, homogeneous (for math ability) groups, during station sessions, if necessary, to support different ability levels, and also accomodate reading levels, with students with developed reading able to practice reading the problems, and others given more support as necessary.

Mini whiteboards - students practice writing numbers 1 - 10.	Students who need it can be provided with printouts of numbers to copy if they are still practicing writing them from memory. Paper can be used as an alternative to mini whiteboards for students who want.
Students go away to represent a sum that is up on the board, using a method of their choice. Lots of materials available in the classroom.	Students who may need the support can be given further modeling to support them. Other students can work independently, and make further examples when they are finished.
With teacher or parent support as necessary, students gather their own data on something they are interested in, or to solve problems that may be of interest, to be used to practice addition and subtraction, with real life purpose. Examples might be goals scored by their favorite sports teams, or the total number of a favorite food they eat on different days, or of toys they have.	This is additional project work that can take place outside the main classes, in our project time of the day, and will support it. Students can be worked in small groups or individually here to answer questions based on their interests and data, and also their ability level.

Lessons: How will you sequence the lessons, formative assessments, and summative assessment in this unit? Briefly describe each lesson including techniques to differentiate the product, content, and/or process for the diverse needs of your students.

Although we will incorporate more structured classes into this unit, our philosophy is that of student-emergent projects and small group activities. This will be incorporated into the lesson structure. There will also be other times throughout the day to continue to work on the project activities here, which may need more time.

Note that the classes at the school have two homeroom teachers - one Chinese teacher and one international teacher, as well as a third assistant teacher who can sometimes be present. Hence, in addition to the lead teacher for each lesson, there can be at least one further teacher available to help support and monitor, for example, during learning stations activities.

1. *Lesson 1*

a. Objective:

- Students will be able to use at least two different methods out of drawing, fingers, clapping, using physical objects, writing an arithmetic equation, or another method agreed with the teacher to represent and then solve an additional problem within 10 (whole numbers 0 - 10).

- Students will be able to use at least two different methods out of drawing, fingers, clapping, using physical objects, writing an arithmetic equation, or another method agreed with the teacher to represent and then solve a subtraction problem within 10 (whole numbers 0 - 10).

b. Prerequisite Skills:

In the previous unit, the students had a first introduction to addition and subtraction to 10, with written equations appearing alongside a number of objects as a visual scaffold, and practiced representing them in different ways.

All 8 prerequisite skills for the unit, as outlined above, will come into play here.

c. Description:

- Students are shown a word problem as a whole class to set context.
- As a class, students solve it. Volunteers offer ideas, but then the teacher models the solution with everyone. Repeat once to engrain the context.
- Now the teacher asks students for ways in which number problems could be represented, as practiced in the last unit. Students give answers.
- Formative assessment; materials around the classroom. One of the sums that were gone through from the word problem is put up on the board. A way of representing this is modeled. Students go and practice modeling. Teachers monitor and observe.
- Students back together for summative assessment introduction. Students showed sample portfolios of two addition and two subtraction problems, shown in different ways.
- Students in homogeneous (for math ability) groups so that they can work in these as they make their representations. Teachers support groups as necessary.
- (Set time given for students to work on their representations. This work can be continued during arrival time and project time throughout the week.)
- Whole class together for lesson conclusion.

d. Differentiation:

Varying reading levels:
- When the word problems at the beginning of the class are first shown, the word forms can first be shown before being read out. Students with developing reading can be encouraged to lead to read these. Students who may have some reading exposure will be able to follow this. The teacher will read and go through the question with the class before it is to be answered. Students with developing reading will then have been stretched to practice reading to lead, but everyone will be able to access the question as the teacher goes through with everyone.

EAL students:
- As questions are asked and instructions given, visual support can be used, along with exaggerated expression and body language to support understanding for EAL students. They can also be sat at the front during the whole class time.

Students with special needs:
- During homogeneous groupings for project activity, one teacher can focus on giving these the additional guidance they need. As a concrete scaffold, the teacher could give a small number of representations for them to choose to follow with teacher guidance as necessary. The teacher can also provide sample equations for them to represent to reduce the cognitive burden of thinking one up.

Talented and gifted students:
- They can be encouraged to produce representations for equations with bigger numbers to stretch themselves.

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2. Lesson 2

a. Objective:
- All students will be able to write two addition equations within 10 (numbers 0 - 10) using the numbers, and the symbols "+" and "="
- All students will be able to write two additional equations within 10 (numbers 0 - 10) using the numbers, and the symbols "-" and "=".

b. Prerequisite Skills:
- All 8 prerequisite skills for the unit, as described above.

In particular;
- Ability to write the digits 0 - 10.

Also
- Developing ability to approach and solve arithmetic problems within 10, even if some support is still needed.

c. Description:

- Warm up.

Practice counting, then practice saying numbers you see.

- Mini whiteboards for formative assessment. Teacher says a number, and students practice writing it. (Alternatively, students can lead).
- Addition and subtraction song for transition and movement. (whole class)
- Addition, subtraction and equals symbols shown. Class practice writing these together in air and with different body parts for variety. (whole class)
- Then students practice writing addition and subtraction problems together in the air (whole class).
- Now, students rotate in stations to practice writing equations in different ways. Groups can be homogeneous for math ability.

Station 1: Writing in sand.
Station 2: Working with chalk on large blackboards.
Station 3: Working with different markers and coloured writing tools of their choice.
For answering questions, students can use number and symbol cards in their groups, which they draw to choose the numbers to add or subtract. They can work together to solve them, practicing communication and collaboration and advancing their skills together. Then they can write.
Alternatively, they can create their own.

- Lesson consolidation. Students together and practice writing the addition, subtraction and equals signs in the air.

d. Differentiation:

Different reading levels:

- There are no specific reading requirements in this lesson. However, students with developing reading can have this supported by given word equations for which to write the arithmetic equations.

EAL students:

- As questions are asked and instructions given, visual support can be used, along with exaggerated expression and body language to support understanding for EAL students. They can also be sat at the front during the whole class time.

Students with special needs:

- Students can be provided with additional support during scaffolded group work in stations. Teachers can support in solving the problem as necessary to reduce the cognitive load, so they only need to focus on the writing process. Writing support can be provided as necessary for the different mediums, for example, the teacher either modeling again the action of the writing for the student to follow, or writing the equation first for the student to trace over.

Talented and gifted students:

- Students can write their own problems rather than take them from cards.
- They can be stretched to write problems with bigger numbers, or even with three numbers to add or subtract.

3. Lesson 3

a. Objective:
- All students will be able to write two addition equations within 10 (numbers 0 - 10) using the numbers, and the symbols "+" and "="
- All students will be able to write two additional equations within 10 (numbers 0 - 10) using the numbers, and the symbols "-" and "=".

Continuation from previous class.
Students will also do a more in depth exploration of word problems, to build up towards this objective.

b. Prerequisite Skills:
All 8 prerequisite skills for the unit, as described above.

In particular;
- Ability to write the digits 0 - 10.

Also
- Developing ability to approach and solve arithmetic problems within 10, even if some support is still needed.

- Developing ability to write addition and subtraction equations, ready for summative assessment here.

c. Description:
- Whole class practice of writing addition and subtraction equations. Example practiced together with students writing in the air.
- Students in groups to practice writing addition and subtraction equations as in the previous class. On paper this time, ready for portfolio.

(As per summative assessment description, students can choose which equations to include in their portfolio).
(10 minutes)
- Whole class got back together to introduce work on the App.
- Class in homogeneous for math ability groups. Lead teacher with one group at a time, practicing differentiated word problems.

Other students are using Khan Academy Kids App to practice arithmetic activities to develop confidence here.
(Group with teacher to rotate).
- Arithmetic song for lesson closure.

d. Differentiation:

Different reading levels:
- As students practice word problems with the teacher in small groups, they can be provided the opportunity to practice reading them if they are ready, and then with a level of support based on their reading level.

EAL students:
- During word problem practice with the teacher, support through pictures, actions and exaggerated

expressions can be used as necessary. While they are working on the activities from Khan Academy Kids App, the second teacher observing can be available to provide support with any understanding from the App as necessary.

Students with special needs:
- For the writing activity, they can be provided support as necessary. For example, they can use a type of writing device that may be most suitable. They can copy over writing from the teacher as a scaffold if necessary, or follow the teacher to model the strokes for writing the different numbers and symbols.
- For the small group word question practice with the lead teacher, further concrete support for example, use of blocks or drawings, can be used as necessary.
- Observing teachers can support Khan Academy Kids App work as necessary. Khan Academy Kids exercises can be chosen based on level also.

Talented and gifted students:
- Exercises to level can be chosen on the Khan Academy Kids App. If necessary, they can work on their own problems with bigger numbers.
- Students can be stretched during the small group activity with the lead teacher. They can be given problems with bigger numbers, multiple numbers or further more complicated situations to work with. Alternatively, they can lead the activity to make their own questions here.

4. Lesson 4

a. Objective:

- All students will be able to participate in a real world role-play in English, where they are asking an arithmetic problem within 10 (numbers 0 - 10) and they contribute at least two exchanges to the conversation, with an average of no more than one error in the English per exchange. (two exchanges are defined as separate here if the other speaks in between.)

- All students will be able to participate in a real world role-play in English, where they are answering an arithmetic problem within 10 (numbers 0 - 10) and they contribute at least two exchanges to the conversation, with an average of no more than one error in the English per exchange (two exchanges are defined as separate here if the other speaks in between.)

Activity for meeting these objectives may not take place until the following class however.

b. Prerequisite Skills:

Of the unit prerequisite knowledge, students should be aware of the following,

- Students should be able to count forwards to and backwards from 10 (starting at 0), with fluency.
- Students should be aware of the correspondence between a written digit and a physical number of objects or counts - for example 7 can represent 7 objects or 7 occurrences of an event.

(The relationship between counting and cardinality.

- Students should be able to recognise the written digits for the numbers 0 - 10 and know the number it represents.
- Students should have an appreciation of the fact that if you have a known physical number of objects or occurrences of an event and add one or more new ones to count, you can count the new ones only, beginning from the number after the total number you had originally.
- Students should have a developing appreciation of the fact that if you have a known count of objects and lose one or more, you can count backwards from the original number the appropriate number of times.
- (English language) Students should be familiar with the numbers 0 - 10 in English.
- (English language) Ability to comprehend instructions, questions, or other information, of up to three sentences delivered in English, with only contextual, visual and gesture or action based support, with slower and exaggerated language if necessary.

In addition,

- Students should have a growing appreciation of arithmetic to 10, to lower the cognitive burden of the arithmetic within the roleplay.

For the English itself, students have different levels, so there will be differentiation based on this, as outlined in the assessment description above.

c. Description:

- Warm up - 15 minute arithmetic board game in homogeneous for math ability groups. (Formative assessment)
- Arithmetic songs for transitions.
- Role play introduction.
- Students are asked to brainstorm places where they would use arithmetic. Example of restaurant given as necessary. This sets context.
- Model of how role-play could take place in one setting. (This could be modeled with able students first and discussed with them in advance as necessary.)
- Students in homogeneous groups for English level, and then pairs within the group. Preparation for role plays. Scaffolded support as necessary.
- Teacher's will monitor during roleplay preparations. If students are ready, they can role play to the teacher now.
- Whole class together for feedback and lesson conclusion. It will be confirmed that students who have not yet done their roleplay, will do it at the beginning of next class.

d. Differentiation:

Different reading levels:

- At the start of the brainstorm, the words, "Where could you use arithmetic in real life?" can be written on the board. Student's with developed reading can hence stretch themselves to read this for the class, with the teacher then supporting everyone together, so that everyone can follow. The same can be done for any other instructions that can be written on the board throughout the class.

EAL students:

- All instructions can be given using slow and exaggerated language, with EAL students checked in with throughout the process.
- As described in the assessment description above, students will be given scaffolded support for the dialogue based on their English level. Those with less experience in English can have the teacher support them in modeling sentences for them to use and rehearse these as necessary.

Special needs students:

- Differentiated versions of the board game can be used according to students' needs. If necessary, a version with a large size can be used to make it more visual. Pictures can be added underneath the arithmetic equations on the squares of the board game to support as necessary. One of the class teachers can be available to provide concrete support during the board game as necessary.
- Scaffolding can be provided for the choosing of a scenario for the role play if necessary, with the teacher providing concrete possibilities. Students they are working with can also support.

Talented and gifted students

- Versions of the board game with bigger numbers or more numbers can be used to stretch arithmetic. Alternatively, students can make their sums as they land on squares.
- For role play, students with advanced English, can stretch themselves to produce freely. Also to prepare longer role play dialogues and with larger numbers.

5. *Lesson 5*

a. Objective:

- All students will be able to participate in a real world role-play in English, where they are asking an arithmetic problem within 10 (numbers 0 - 10) and they contribute at least two exchanges to the conversation, with an average of no more than one error in the English per exchange. (two exchanges are defined as separate here if the other speaks in between.)

- All students will be able to participate in a real world role-play in English, where they are answering an arithmetic problem within 10 (numbers 0 - 10) and they contribute at least two exchanges to the conversation, with an average of no more than one error in the English per exchange (two exchanges are defined as separate here if the other speaks in between.)

The above are completed from the previous class.

This class will also practice skills from previous lesson objectives as necessary. There will be flexibility to further practice project work.

b. Prerequisite Skills:

- All prerequisite skills for the unit as a whole, as stated above.
- Readiness and preparation for completing the roleplay activity if they haven't yet done so.

NOTE: Students can have had time during our normal project time and playtimes of the day to practice their presentation if necessary.

c. Description:

- Remind students that in this class we will be doing/finishing the role plays that we started preparing in the previous class.
- Students do any final practice or preparations in their groups as necessary.
- Stations. Students do practice activities on the Starfall or Khan Academy Kids Apps. Groups of two to three pairs up at a time to do production activity for their performance.
- Once all performances have taken place, students back together for the introduction of the second half of the class.
- Second half of the class will be students at stations consolidating a range of skills already practiced in the unit - representing arithmetic problems in different ways, writing arithmetic problems and word problems with support of a teacher. Exact nature of the stations will be determined based on student needs. However, likely examples are writing equations in different ways again and representing arithmetic problems in different ways, as well as word problem practice with a teacher.

For creating equations in different ways, a new activity to add will be making equations - the numbers and symbols - out of plasticine. This also stretches fine motor skills in different ways.

d. Differentiation:

Different reading levels:

- Students with developing reading levels can read word problems during the stations activity at the end, as previously. They can also be provided with reading problems to model during the activities in which they write arithmetic equations in different ways.

EAL Students

- As before, differentiated requirements for the English speaking activity.
- Clear and exaggerating instructions with modeling for all stations activities, with a teacher present to support with these as necessary while they are going on.

Special needs students:

- Support with the role play during preparation as in the previous class. They can have the opportunity to have an additional final rehearsal with modeling before the final performance, as necessary.
- Opportunity for differentiated activities on the APPs during the work here.
- Teachers can support with concrete examples and direct support during the stations activities as previously.

Talented and gifted students

- Again, students stretched with their role play requirements. In addition, they could be asked extended

follow up questions based on what could happen next in the role play situations, or how they could adapt with higher numbers.
- Differentiation with more difficult exercises on APP's. Then extended or more complex problems during the stations activity, as in previous classes.

Lesson 6

a. Objective:
b. Prerequisite Skills:

c. Description:
Writing own word problem and sharing with friend

d. Differentiation:

Lesson 7

a. Objective:
b. Prerequisite Skills:

c. Description:
Final review with summative assessment.

d. Differentiation:

Remediation & Next Steps: How will you remediate, review, and extend prior to moving to the next unit? Include considerations for students who lack prior knowledge.

References: Add resources you used to create this unit plan and links to important texts and tools referenced within.

1. Kahoot! can be used for formative assessments.
2. Education.com has resources that could be used during station activities and describes the common core standards.
3. Cuisenaire rods and connecting cubes can be used to support arithmetic.
4. The Starfall and Khan Academy Kids APPs can be used during stations activities and independent practice time to support arithmetic development and number sense.
5. Numberblocks can be shown during short gaps in the day between classes, to support number sense and familiarity with addition.
6. These songs help practice addition and subtraction.