

Duration of Time using Informal Units.

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Differentiate and Assess

Not every student will be ready to investigate this concept at this Level and so we will need to differentiate to ensure every student is learning at their leading edge. Select the Differentiate button on this screen.

Integrate

Every mathematical concept is integrally related to other mathematical concepts. Teaching and learning related concepts simultaneously develops deep relational understanding. Select the Integrate button on this screen.

Intervene

Some students may not yet be ready to investigate this concept at any Level, and so we will need to provide some intervention. Select the Intervention button on this screen.

DURATION OF TIME USING INFORMAL UNITS.

EXPLICIT TEACHING PLAN OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE EXPLICIT TEACHING PLAN, INCLUDING STRATEGIC QUESTIONS, AND DESCRIBING THE SEQUENCE WHICH WILL OCCUR OVER MULTIPLE LESSONS.

RESOURCES: BALLS, BLOCKS, JACKETS, ANALOG CLOCK, DIGITAL CLOCK, PENCIL, PAPER

WHAT COULD WE DO?

Children:

- suggest units of measurement, for example, clapping, stamping, counting aloud.
- estimate the number of times they could clap while ... writes his/her name, for example, 5 times, more than 5 times, less than 10 times, etc
- identify who took longer / shorter to write their name and why, for example, longer name, slower / faster writer, slower faster clapping

WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?

Children

- ask one another questions about estimate and measure duration of time using informal units , for example:
 - ▶ How could we measure how long it takes to write your name?
 - ▶ What could we use as our unit of measurement?
 - ▶ Could we use clapping as our unit of measurement?
 - ▶ Could we count the number of claps it takes to write your name?
 - ▶ How many times do you estimate that we will be able to clap while ... writes his/her name?
 - ▶ Let's clap and count while ... writes their name.
 - ▶ How many times did we clap?
 - ▶ Did we clap 11 times?
 - ▶ Let's record that ... could write his/her name in 11 claps.
 - ▶ Is that close to what we estimated?
 - ▶ Who took longer to write their name?
 - ▶ Why did ... take longer to write their name?
 - ▶ Because a clap is not always the same length of time, could we say that a clap is an informal unit of measurement of time?

DURATION OF TIME USING INFORMAL UNITS.

EXPLICIT TEACHING PLAN

FULL EXPLICIT TEACHING PLAN, EMBEDDING DEEP RELATIONAL UNDERSTANDING, METALANGUAGE, AND QUESTIONS THAT MAY BE USED OVER MULTIPLE LESSONS.

WHAT COULD WE DO?

Children think about, talk and listen to a friend about, then have the opportunity to share what they already know.

Allow children to suggest things that take a short time and things that take a long time, for example, writing my name (short) and writing a sentence (long time).

Allow children to suggest units of measurement, for example, clapping, stamping, counting aloud.

WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?

- ▶ Today brings an investigation about measuring time.
- ▶ What do you know about measuring time?
- ▶ Talk about measuring time with a friend.
- ▶ Is anyone ready to share what they are thinking about measuring time?

- ▶ We've investigated time.
- ▶ And we found that we can compare and describe long and short time durations.
- ▶ And we found that some things take a short time.
- ▶ And we found that some things take a long time.

- ▶ Today we're going to investigate measuring the duration of activities.
- ▶ How could we measure how long it takes to write your name?
- ▶ What could we use as our unit of measurement?
- ▶ Could we use clapping as our unit of measurement?
- ▶ Could we count the number of claps it takes to write your name?

Select a child to come out to write their name on the board.

Allow children to estimate the number of times they could clap while ... writes his/her name, for example, 5 times, more than 5 times, less than 10 times, etc

Children clap and count as their friend writes their name on the board, for example, (clap) 1, (clap) 2, (clap) 3, (clap) 4, (clap) 5, (clap) 6, (clap) 7, (clap) 8, (clap) 9, (clap) 10, (clap) 11.

Record, for example, write (name) = 11 claps

Allow children to discuss if their estimate was close to the actual duration.

Select another child to come out to write their name on the board.

Allow children to estimate the number of times they could clap while ... writes his/her name, for example, 5 times, more than 5 times, less than 10 times, etc

Children clap and count as their friend writes their name on the board, for example, (clap) 1, (clap) 2, (clap) 3, (clap) 4, (clap) 5, (clap) 6, (clap) 7, (clap) 8.

Record, for example, write (name) = 8 claps

Allow children to identify who took longer / shorter to write their name and why, for example, longer name, slower / faster writer, slower / faster clapping.

- ▶ Who would like to come out and write their name on the board?
- ▶ How many times do you estimate that we will be able to clap while ... writes his/her name?

- ▶ Let's clap and count while ... writes their name.
- ▶ How many times did we clap?
- ▶ Did we clap 11 times?
- ▶ Let's record that ... could write his/her name in 11 claps.
- ▶ Is that close to what we estimated?

- ▶ Who else would like to come out and write their name on the board?

- ▶ How many times do you estimate that we will be able to clap while ... writes his/her name?

- ▶ Let's clap and count while ... writes their name.
- ▶ How many times did we clap?
- ▶ Did we clap 8 times?
- ▶ Let's record that ... could write his/her name in 8 claps.

- ▶ Who took longer to write their name?
- ▶ Why did ... take longer to write their name?
- ▶ Who took shorter to write their name?
- ▶ Why did ... take shorter to write their name?

Allow children to discuss whether it is easy to make sure they clap at the same speed each time.

- ▶ Did we clap at the same speed each time?
- ▶ Did we clap faster one of the times?
- ▶ Did we clap slower one of the times?
- ▶ Is it a little hard to clap exactly the same each time?
- ▶ Because a clap is not always the same length of time, could we say that a clap is an informal unit of measurement of time?