

# MEASURE AND CALCULATE DURATION.

## INVESTIGATIONS OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE INVESTIGATIONS THAT STUDENTS MAY ENGAGE IN TO DEEPEN THEIR RELATIONAL UNDERSTANDING. INVESTIGATIONS WITH INSTRUCTIONS TO STUDENTS FOLLOW ON SUBSEQUENT PAGES.

- Children sit in pairs. They time events using a stopwatch. They record the duration in seconds and fractions of a second. [Reflection: How can we measure time duration using a stop watch?](#)
- Children have an analog clock. They set their clock and record the time. They set their clock again and record the time. They work out the duration between the times. Make the times not too easy nor too challenging. [Reflection: How can we calculate time duration?](#)
- Children have a digital clock. They set their clock and record the time. They set their clock again and record the time. They work out the duration between the times. Make the times not too easy nor too challenging. [Reflection: How can we calculate time duration?](#)
- In pairs, children are given a stopwatch. They take turns to perform a task while their friend uses the stopwatch to time them. They record the time duration in seconds, tenths of seconds, hundredths of seconds. Tasks could include:
  - bouncing a ball 20 times
  - writing their name
  - say the alphabet backwards
  - count backwards by 2s, 3s, 4s from 100
  - throw a ball in the air a catch it 25 times
  - run to a post and back
  - the time it takes for objects dropped from different heights to hit the floor.

[Reflection: How can we measure time duration using a stop watch?](#)

- At home, children use a stopwatch to time advertisements on TV and report on their findings. They discuss the need for TV ads to be timed accurately, for example an ad may cost \$\$ per second. [Reflection: How can we measure time duration using a stop watch?](#)
- During sporting events, children investigate times of events such as swimming and track events. Children who compete in swimming or track events share their understanding. [Reflection: How can we measure time duration using a stop watch?](#)
- Multiple children time an event, for example, a runner running 100 metres. They compare the times on their stopwatches and discuss the margin of error. They discuss the need for small unit of measurement to minimise the margin of error. [Reflection: How can we measure time duration using a stop watch?](#)

- Children look at train and bus timetables and calculate time duration between stations / stops. Reflection: How can we calculate time duration?
- Children look at cinema timetables and calculate the length of a movie based on its start and finish time. Reflection: How can we calculate time duration?
- Children look at opening and closing hours for a shopping centre and calculate the duration of time it is open each day. Reflection: How can we calculate time duration?
- In pairs, children each have an analog clock. Each child sets their clock at a time. Each child works out the duration between the times. Reflection: How can we calculate time duration?
- In pairs, children each have a digital clock. Each child sets their clock at a time. Each child works out the duration between the times. Reflection: How can we calculate time duration?

# Measure and Calculate Duration.

Time events using a stopwatch.

Record the duration in seconds and fractions of a second.

Reflection: How can we measure time duration using a stop watch?

# Measure and Calculate Duration.

Have an analog clock.

Set your clock and record the time.

Set your clock again and record the time.

Work out the duration between the times.

Reflection: How can we calculate time duration?

# Measure and Calculate Duration.

Have a digital clock.

Set your clock and record the time.

Set your clock again and record the time.

Work out the duration between the times.

Reflection: How can we calculate time duration?

# Measure and Calculate Duration.

Sit with a friend.

Have a stopwatch.

Take turns to perform a task while your friend uses the stopwatch to time you.

Record the time duration in seconds, tenths of seconds, hundredths of seconds.

Tasks could include:

- ▶ bouncing a ball 20 times
- ▶ writing their name
- ▶ say the alphabet backwards
- ▶ count backwards by 2s, 3s, 4s from 100
- ▶ throw a ball in the air a catch it 25 times
- ▶ run to a post and back
- ▶ the time it takes for objects dropped from different heights to hit the floor.

Reflection: How can we measure time duration using a stop watch?

# Measure and Calculate Duration.

At home, use a stopwatch to time advertisements on TV and report on your findings.

Discuss the need for TV ads to be timed accurately, for example an ad may cost \$\$ per second.

Reflection: How can we measure time duration using a stop watch?

# Measure and Calculate Duration.

During sporting events, investigate times of events such as swimming and track events.

If you compete in swimming or track events, share your understanding.

Reflection: How can we measure time duration using a stop watch?



# Measure and Calculate Duration.

In a group, each of you time an event, for example, a runner running 100 metres.

Compare the times on your stopwatches and discuss the margin of error.

Discuss the need for small units of measurement to minimise the margin of error.

Reflection: How can we measure time duration using a stop watch?

# Measure and Calculate Duration.

Look at train and bus timetables.

Calculate time duration between stations / stops.

Reflection: How can we calculate time duration?

# Measure and Calculate Duration.

Look at cinema timetables.

Calculate the length of a movie based on its start and finish time.

Reflection: How can we calculate time duration?

# Measure and Calculate Duration.

Look at opening and closing hours for a shopping centre.

Calculate the duration of time it is open each day.

Reflection: How can we calculate time duration?

# Measure and Calculate Duration.

Sit with a friend.

Each of you have an analog clock.

Each of you set your clock at a time.

Each of you work out the duration between the times.

Reflection: How can we calculate time duration?

# Measure and Calculate Duration.

Sit with a friend.

Each of you have a digital clock.

Each of you set your clock at a time.

Each of you work out the duration between the times.

Reflection: How can we calculate time duration?