

**SCIENTISTS ARE  
LIKE DETECTIVES**  
THEY ASK QUESTIONS AND  
LOOK FOR CLUES TO FIND  
ANSWERS

What can I  
measure?  
(OBSERVATIONS)

What can I see,  
hear, smell or  
feel?  
(OBSERVATION)

Can I change  
something  
(a variable)  
and test it  
again?

Why did this  
happen?  
(INFERENCE)

Can I think  
of more  
than one  
explanation?  
(INFERENCE)

**GATHER AND  
INTERPRET DATA**

Can I add  
more detail  
to my  
observations  
or draw a  
picture?

SCIENTISTS DON'T  
**MAKE THINGS UP**  
THEY ALWAYS USE  
FACTS TO EXPLAIN  
THEIR REASONS

How do I  
know that  
is true?

Can I  
include an  
example?

Why do I  
think  
that?

Can I write  
an  
explanation  
using  
"because" or  
"for  
example"?

Will this  
always  
be true?

How can  
someone  
check my  
facts?

**USE  
EVIDENCE**

**SCIENTISTS DON'T  
TRUST ANYTHING  
WITHOUT CHECKING  
OUT THE FACTS**

How accurately did I measure?

Was it a fair test?

How sure am I of my results?

Did my results surprise me? Why?

What problems did I have carrying out my method?

Do I need to repeat my experiment to check my results?

**CRITIQUE  
EVIDENCE**

# SCIENTISTS SPEAK DIFFERENT LANGUAGES

...SUCH AS GRAPHING, MODELLING, TABLES, SYMBOLS AND EVEN ENGLISH WHEN NEEDED!

Should I draw a graph, table, diagram or write an explanation?

What new words do I need to find the meaning for?

What does this diagram or graph tell me?

Have I included enough detail and used formal language?

What information is not included? What do I still need to find out?

What questions should I ask to find out more?

## INTERPRET REPRESENTATIONS

SCIENTISTS GET  
INVOLVED!  
EXCITED! VOCAL!  
THEY INFLUENCE  
PEOPLE!

What  
everyday  
actions can I  
change?

How does  
this affect  
me and my  
life?

What  
groups of  
people  
might be  
affected?

What is my  
opinion on  
this issue?

What do my  
friends and  
whanau  
think about  
this issue?

ENGAGE WITH  
SCIENCE

What can I  
do in my  
community  
to help?