# Making Metacognition Visible:

A Modelled - Guided - Independent approach to Teaching Comprehension







WHAT ARE YOU THINKING:

#### **ACKNOWLEDGEMENT OF COUNTRY**

I'd like to acknowledge the traditional custodians of this land and pay our respect to elders past, present and future, for they hold the memories, the traditions, the culture and the hopes of Aboriginal Australia.



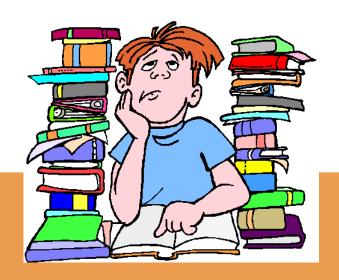
I would also like to extend my respect to all who are here today, sharing our common homeland

### WHAT IS COMPREHENSION?

#### TAKE A MINUTE TO DISCUSS THIS WITH THE PERSON NEXT TO YOU

Comprehension involves responding to, interpreting, analysing and evaluating texts

(DET, 2009).



#### THE MONTILLATION OF TRAXOLINE

It is very important that you learn about traxoline. Traxoline is a new form of zionter. It is montilled in Ceristanna. The Ceristannians gristeriate large amounts of fevon and then bracter it to quasel traxoline. Traxoline may well be one of our most lukized snezlaus in the future because of our zionter lescelidge.

- 1) What is traxoline?
- 2) Where is traxoline montilled?
- 3) How is traxoline quaselled?
- 4) Why is it important to know about traxoline?

#### **HOW DID YOU GO?**

- Did you understand the text?
- Were you able to answer all of the questions?
- What strategies did you use while reading and answering the questions?
- Did the questions engage you in responding to, interpreting, analysing and evaluating the text?

#### **READING MYTHS**

- As long as students can decode texts fluently, they will naturally come to understand what they read.
- Answering questions at the end of the text/ chapter is teaching reading comprehension.
- Reading comprehension is only taught in English.

#### CHALLENGE YOUR THINKING

- \* Durkin 1979 found that in the 4 469 minutes of reading instruction she observed, 10 minutes were devoted to teaching comprehension (cited in Wharton-McDonald, R. & Swiger, S. 2009)
- \* Taylor & Pearson (2002) report that even in exemplary classrooms, very little comprehension instruction takes place. (cited in Wharton-McDonald, R. & Swiger, S. 2009)
- \* Comprehension is more than answering questions about a text.

  Comprehension involves 'Rich Talk'. Silent classrooms do not foster comprehension.

# WHAT AFFECTS COMPREHENSION? WHAT DOES THE RESEARCH SAY?

#### Comprehension is affected by:

- Ability to decode the text
- Purpose for reading and level of comprehension required
- Reader's interest and motivation
- Reader's field knowledge including vocab
- Reader's linguistic knowledge of grammar
- Text layout and reading pathways
- Reader's ability to check understanding (use of metacognitive strategies)
- Reader's ability to locate point of mis-comprehension and adjust strategies.



Comprehension improves when we engage students in rich discussions that allow students to integrate knowledge, experience, strategies and textual insights.

(Pearson, 2008)





#### Curriculum and Leadership Portfolio

#### Think, Pair, Share, Square

Think-Pair-Share (Lyman, 1981) is a summarization strategy that can be used in any content area before, during, and after a lesson. The activity involves three basic steps. During the "think" stage, the teacher tells students to ponder a question or problem. This allows for wait time and helps students control the urge to impulsively shout out the first answer that comes to mind. Next, individuals are paired up and discuss their answer or solution to the problem. During this step students may wish to revise or alter their original ideas. Finally, students are called upon to share with the rest of the class. There is also a Think-Pair-Square-Share. In this strategy, partners discuss answers with another pair before sharing with the class. This activity ensures that all students are interacting with the information. Teachers can use this activity as a formative assessment as they walk about the room listening to student conversations.

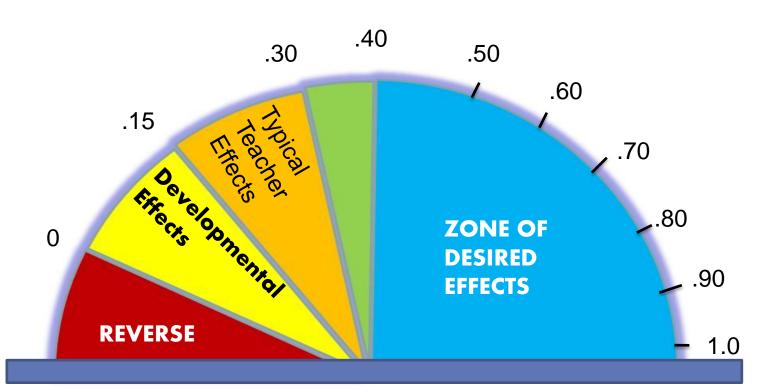


image downloaded from <a href="http://art.ngfiles.com/images/4/scty">http://art.ngfiles.com/images/4/scty</a> think-awesome.png on Tuesday, 6 September 2011

South Western Sydney Region • Curriculum and Leadership Portfolio •

Robert Townson High School • Metacognitive Comprehension strategies • 2012 •

## Why is it important?



#### Student Achievement

Hattie's Effect Sizes – the larger the effect size, the greater the positive outcome of the influence ( > 0.6 has a large, significant impact)

Influence	<b>Effect Size</b>
Problem solving teaching	.61
Teacher professional development	.64
Reading: Repeated reading programs	.67
Reading: Vocabulary programs	.67
Meta-cognition strategies	.67
Teaching students self-verbalisation	.67
Creativity programs	.70
Prov. Formative evaluation to teachers	.70

### STUDENT ACHIEVEMENT

Influence	Effect Size
Feedback	.72
Teacher-student relationships	.72
Prior achievement	.73
Reciprocal teaching	.74
Quality of teaching	.77
Classroom behaviour	.80
Absence of disruptive students	.86
Self-report grades	1.44

### **TEACH** METACOGNITIVE COMPREHENSION STRATEGIES:

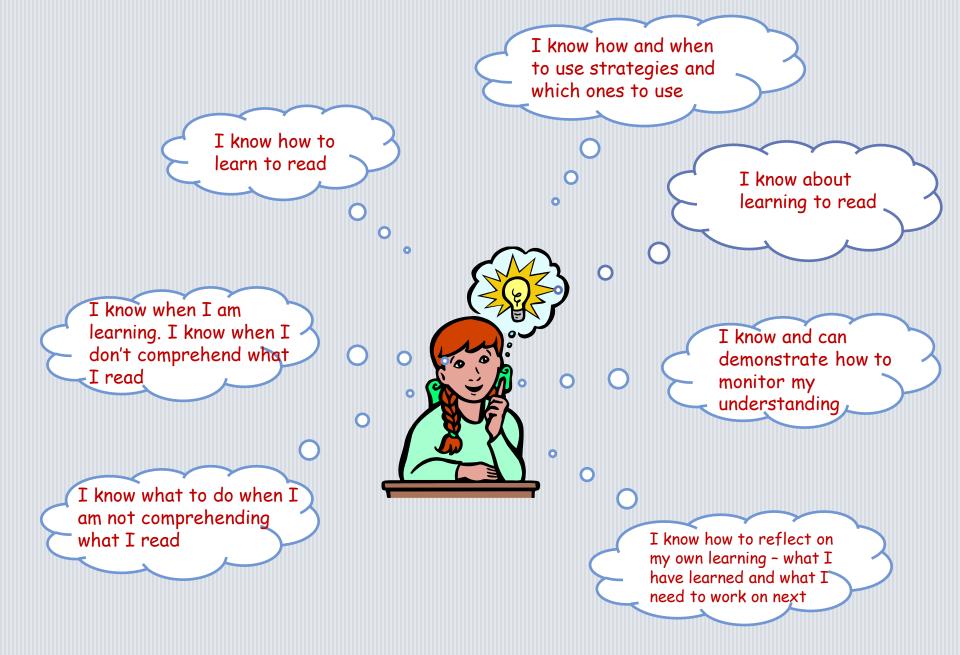
Metacognitive strategies allow students to monitor and assess their ongoing performance in understanding what they are reading. Good readers do this intuitively.

eg: as a text is being read, the reader might think: I don't understand this. I might need to re-read this part.

- Making connections
- Predicting
- Questioning
- Monitoring
- Visualising
- Summarising







Metacognition involves students in knowing about learning (Davis, 2011)

#### 'Super Six' comprehension strategies





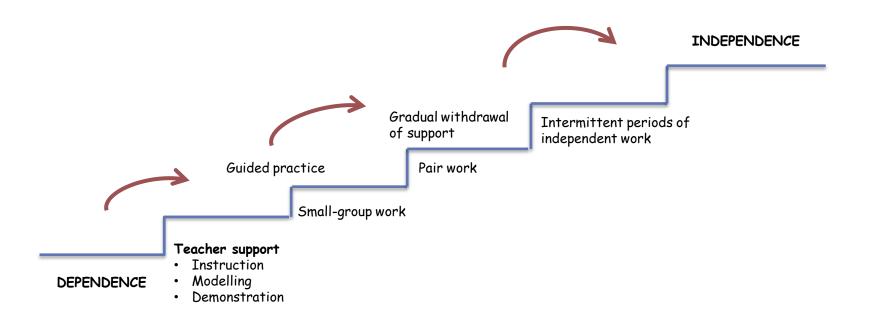
http://www.curriculumsupport.education.nsw.gov.au/literacy/resources/index.htm

These metacognitive strategies need to be explicitly taught by modeling and by scaffolded practice with other students in the class until students are able to use thinking skills independently

### Metacognitively rich teaching involves:

- Teacher explanation and demonstration of the strategy
- Modelled, guided, small group and independent practice
- Students modelling and explaining strategy use to other students
- Teacher providing ongoing and regular feedback on strategy use to students
- Ongoing regular feedback from students' peers
- Strategies which may be related to: word recognition, vocabulary understanding, sentence or paragraph comprehension, comprehension across and between a range of texts

### Using the M-G-I approach to scaffolding comprehension



Scaffolding needs to take place recursively with each new major concept or task that students are asked to complete

### Making Connections



### **Making connections**

### Description

Learners make personal connections from the text with:

- something in their own life (text to self)
- another text (text to text)
- something occurring in the world (text to world).

### **Example questions/statements**

This story reminds me of a holiday to my grandfather's farm.

This character has the same problem that I read/saw/heard in another text.

I saw a program on television that presented things described in this text.

Does this remind me/you of something?

Has something like this ever happened to me/you?

### Example teaching idea

Book and me: Students create two columns with headings Book/Me. Prior to and during reading students add details about the connections between the book and their lives.

### MAKING CONNECTIONS

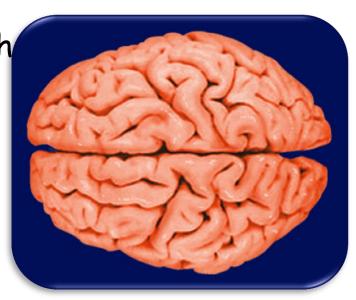
Making connections is like a bridge...joining what we already know or have experienced to something that we are reading, viewing or listening to.



### BRAIN RESEARCH

Our brains are designed to connect new information with information that we already have.

When we connect a text to our own experiences and knowledge, it helps us understand more.



# What connections do we make to a text?

## Text to self

(connecting the text to my own life and experiences)



### Text to text

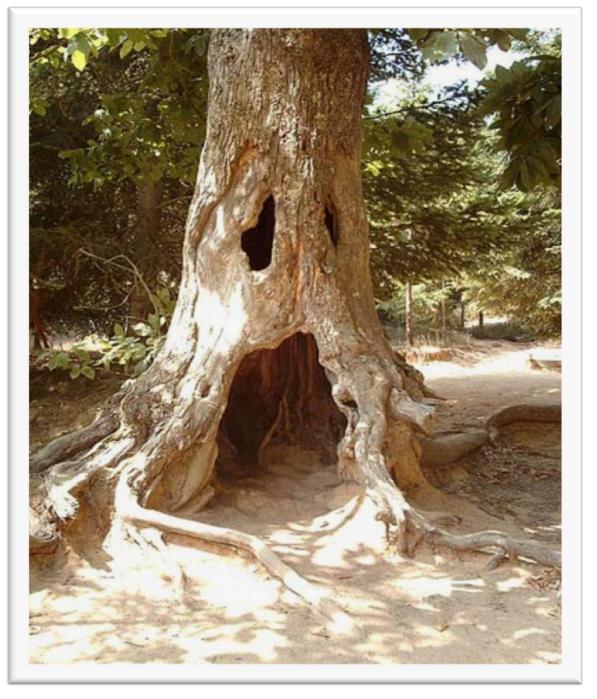
(connecting the text to other texts that I have read, seen or heard)



### Text to world

(connecting the text to things that happen in the world)





 $http://viralnetworks.com/image/id/34567/Queensland\_Rainforest.html$ 



#### STRATEGIES FOR TEACHING STUDENTS TO MAKE CONNECTIONS

- \* Coding the text
- \* Marking the text
- \* V.I.P. Very important Points
- \* Double Entry Journal
- \* Talk Aloud and Think aloud (teacher models, students practice)
- \* Have post-it notes for students to write their connections then share

Stems to make connections...use in pair, group or class discussion:

This reminds me of...

I remember when...

If I were that person I would...

I felt like that when...

An experience I have had like that is when....



### **CODING STRATEGY**

- I already knew that ✓
- **New Information** +
- Wow
- I don't understand?





### How:

Use this strategy is to teach students to think about key points or ideas, to make connections, and to clarify my understanding.

- 1. Read to stop sign
- STOP
- 2. Use sticky notes cut into strips



3. As you read, mark the text to show very important points. You can code these important points as points of interest, confusion,



- 4. When you get to the stop sign talk about your VIPs to your partner.
- 5. Rank your V.I.Ps
- 6. Summarise in 50 words

## Think Aloud

This is where the teacher verbalises their thinking to make predictions based on pictures, text, prior knowledge and experiences.



"From the title I think that this section will tell how fishermen used to catch whales".

"In this next part I think ..."

"Soil profiles remind me of a side view of a sandwich, especially one with two or three fillings"

11

Bruce is cooking dinner.

The table shows the cooking times for his dinner.

	Cooking time
Chicken	1 hour 40 minutes
Potatoes	20 minutes
Peas	10 minutes

Bruce starts cooking the chicken at 5:10 pm. He wants everything to finish cooking at the same time.

At what time should Bruce start cooking the peas?

6:20 pm 6:30 pm 6:40 pm 6:50 pm

### Reflections

Take a moment to note key messages on your VIP sheet:

How might you apply them to your teaching of students? How might you use these ideas to support students and teachers in your role as Teacher Librarian?

"Reflection is not profitable unless it affects practice" Edwards-Groves, 2003



### Predicting



### Predicting

### Description

Learners use information from graphics, text and experiences to anticipate what will be read/ viewed/heard and to actively adjust comprehension while reading/ viewing/listening.

### Example questions/statements

What do I/you think will happen next?

What words/images do I/you expect to see or hear in this text?

What might happen next? Why do I/you think that? What helped me/you make that prediction?

Were my/your predictions accurate? How did I/you confirm my/your predictions?

Have I/you read/seen/heard about this topic anywhere else?

### Example teaching idea

Before and after chart: Students list predictions before and during reading. As they read students either confirm or reject their predictions.

#### **PREDICTING**

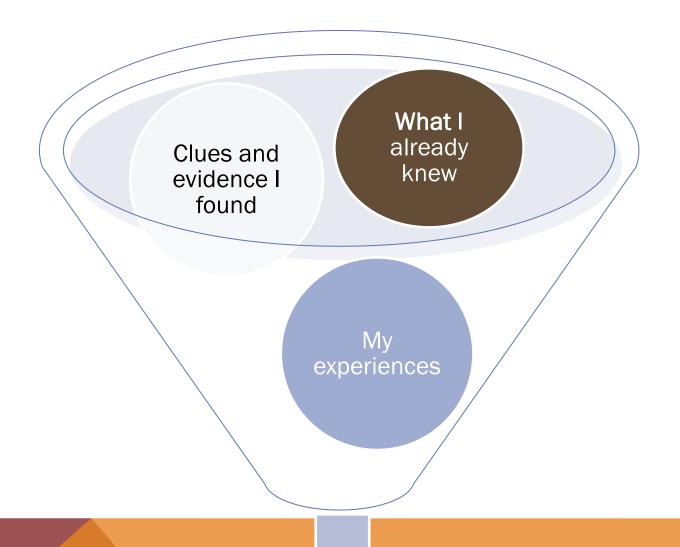
Predicting sets a purpose for reading.



- Before reading, preview elements of graphics, text structure and experiences to anticipate what will be read/viewed/heard and actively adjust their understanding while reading/viewing/listening
- Use what you have read or clues from the visuals to help figure out what you will learn or what will happen in the text.
- You can change your predictions as you read on!

Stems to make predictions...use in pair, group or class discussion:

- I think…because....
- I'll bet...
- I wonder if...
- I imagine...
- I suppose...
- I think this text will be about... .....BECAUSE.....



# My prediction

### WORD PREDICTIONS

# Titanic

The supposedly unsinkable steamship *Tuanic* sank without trace on its first voyage in 1912 after hitting an iceberg. It was not until 1985 that the wreck of this famous ship was found. A French–American team, led by Dr Robert Ballard, used remote-controlled submersible vehicles to locate the wreck where it lay 3.5 kilometres below the surface. Dr Ballard and his team made the first manned dive to the *Titanic* in 1986. They took thousands of photos of the ship and the artefacts on the seafloor around it. They also left a sign asking people to leave the site undisturbed.

However, a year later, another team went to the site and brought back hundreds of artefacts. These included plates, jewellery, coins and even parts of the ship itself. This recovery team has now collected about 6000 objects altogether from the *Titanic* and displays them in museums and travelling exhibitions. This team (now a company known as RMS Titanic Inc.) believes that people will remember the tragedy and learn about the period if they can actually see these artefacts, instead of everything being left to decay deep in the ocean.

Dr Ballard believes strongly that nothing should be taken from the sire, and that it should remain as a dignified memorial to those who died on that cold night in April 1912. The Titanic Historical Society agrees, and its museum only displays artefacts that were not on the ship when it sank or that were saved by survivors. These include shipbuilding plans, lifejackets and small things carried in handbags, as well as letters and postcards written by passengers.





The supposedly
watertight compartments
flooded, and the bow
began to sink.



2. The weight of the water pulled the bow under water and the stern out of the water.



The ship broke apart under the strain of the weight.



4. The bow plunged to the bottom, nose first. Then the stern sank.



### PREDICT-O-GRAM

After discussion activities such as Think, Pair, Share, the students' predictions can then be recorded in the following way.

What do we already know?	
Questions that will be answered	Vocabulary words
Facts to be learned	Text Features

### **ANALYSING TEXT LAYOUT...**



# Partner Read and Think

1. Place a stop sign



2. Predict words



3. Read silently or in unison



4. Find interesting words



5. Ask Questions



"I wonder..."

6. Summarise. "I learned that..."



# Questioning



# Questioning

# Description

Learners pose and answer questions that clarify meaning and promote deeper understanding of the text. Questions can be generated by the learner, a peer or the teacher.

# Example questions/statements

What in the text helped me/you know that?

How is this text making me/you feel? Why is that?

When you read/viewed/ listened to that text did it remind me/you of anything I/you know about? Why did it remind me/you of that?

What did the composer of the text mean by ...?

Whose point of view is this? What points of view are missing?

# Example teaching idea

Wonderings: Using post-it notes, students list all the questions they have about the text. As they read students continue to write questions. When an answer is found for the wondering students remove the post-it note.

# UNDERSTAND WHAT YOU READ BY ASKING QUESTIONS.



Questions can come before reading, during reading and after reading. Begin to wonder about the text you read.



# I WONDER .....

I wonder where he is going?

I wonder if he is lost?

I wonder if he speaks English?

I wonder what may be in his backpack?

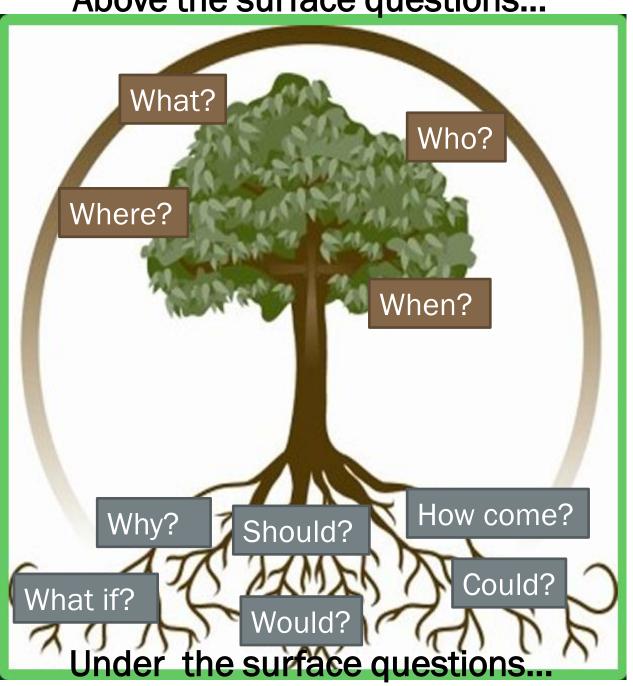
I wonder if someone is waiting for him?

I wonder where he has already been?

I wonder if his feet hurt?



Above the surface questions...



#### Question Creation Chart Q-Chart

	Is	Did	Can	Would	Will	Might
Who						
What						
Where						
When						
How						
Why						

Directions: Create questions by using one word from the left hand column and one word from the top row. The farther down and to the right you go, the more complex and high-level the questions.

# Stems for questioning...use in pair, group or class discussion:

- Who?
- What?
- Where and When?
- Why?- How come?
- What if?
- I wonder...?
- What does the writer want you to believe?
- What issues were addressed?
- What criteria would we use to evaluate this selection?

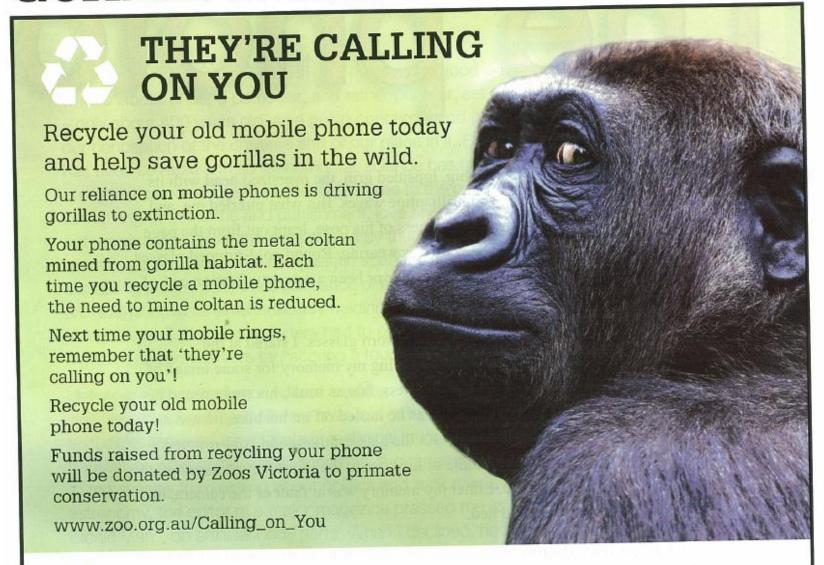
Get students to generate questions throughout a topic - using post it notes





"It is better to know some of the questions than all of the answers"

# Gorillas under threat







# **HANDS DOWN**



# Reflections

Take a moment to note key messages on your VIP sheet:

How might you apply them to your teaching of students?

"Reflection is not profitable unless it affects practice" Edwards-Groves, 2003



# Visualising



# Visualising

# Description

Learners create a mental image from a text read/viewed/heard.

Visualising brings the text to life, engages the imagination and uses all of the senses.

# Example questions/statements

What are the pictures I/you have in my/your head as I/you read/view/ listen to this text?

Can I/you describe the picture or image you made while you read/ heard that part?

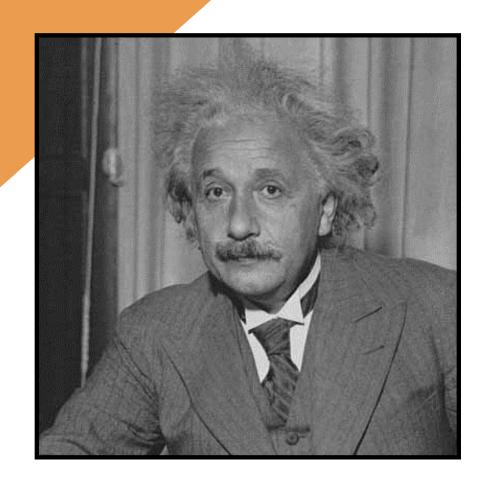
How did the pictures in my/your head help me/you to understand the text?

# Example teaching idea

Sketch to stretch: As a passage/story is read students sketch their visualisation. In groups they share their sketches and discuss reasons for their interpretation.

"If I can't picture it, I can't understand it."

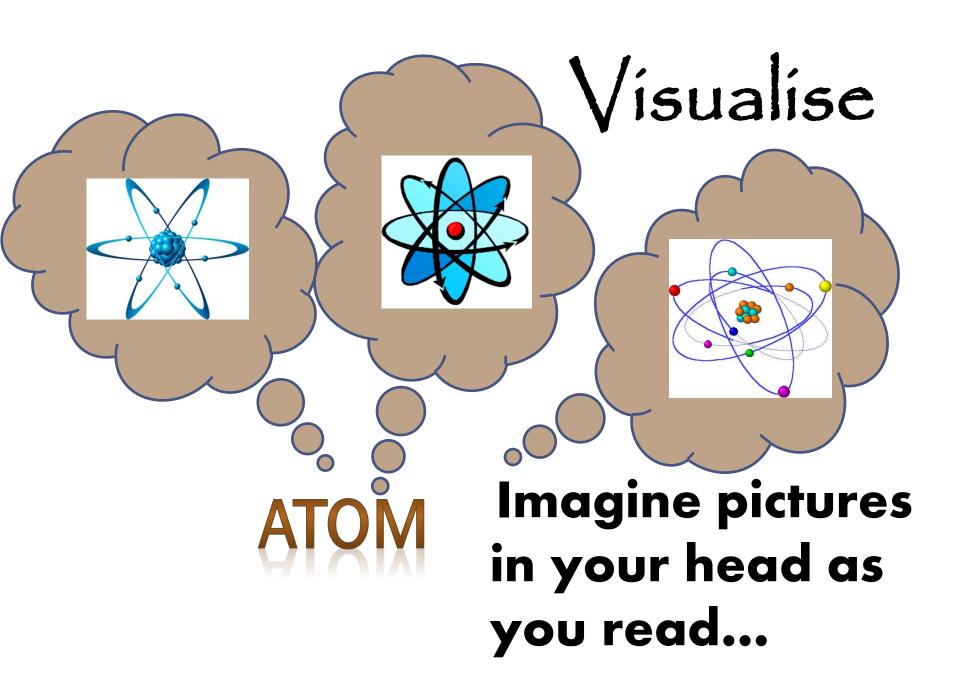
Albert Einstein



# WHAT IS VISUALISING?

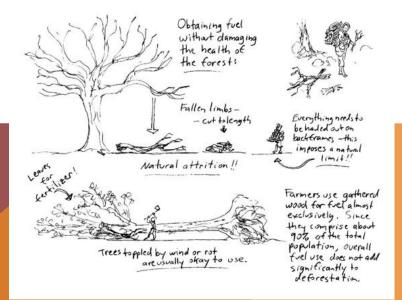


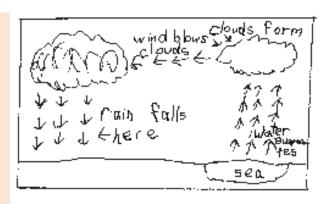
Visualising involves making a picture in your mind about what is happening in the text being read, viewed or heard.
Visualising brings the text to life, engages the imagination and uses all of the senses

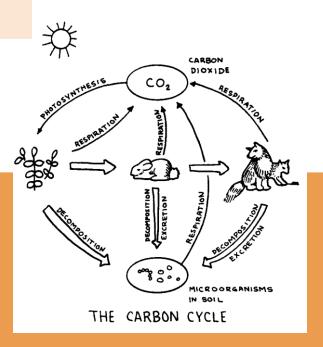


# Sketch to Stretch

- Read
- Quickly sketch your ideas and record your thinking.
- Share and discuss your pictures.
- Use whiteboards, pencil and paper
   The 'artwork' is not the key to the activity

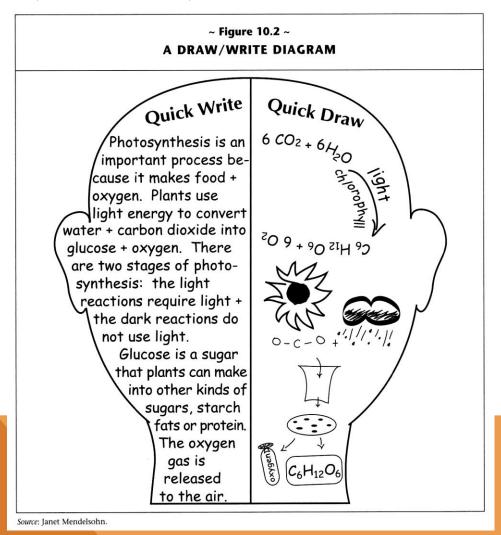






#### Quick Write, Quick Draw

On the diagram below, write a well worded description of the topic. Use your own words, but make sure your vocabulary is technical and precise. On the right hand side, create a visual representation of the concept.

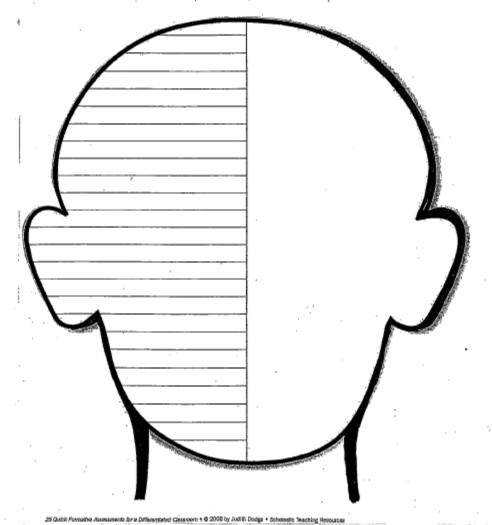


Quick Write, Quick Draw



### Curriculum and Leadership Portfolio Quick Write, Quick Draw

On the diagram below, write a well worded description of the topic. Use your own words, but make sure your vocabulary is technical and precise. On the right hand side, create a visual representation of the concept.

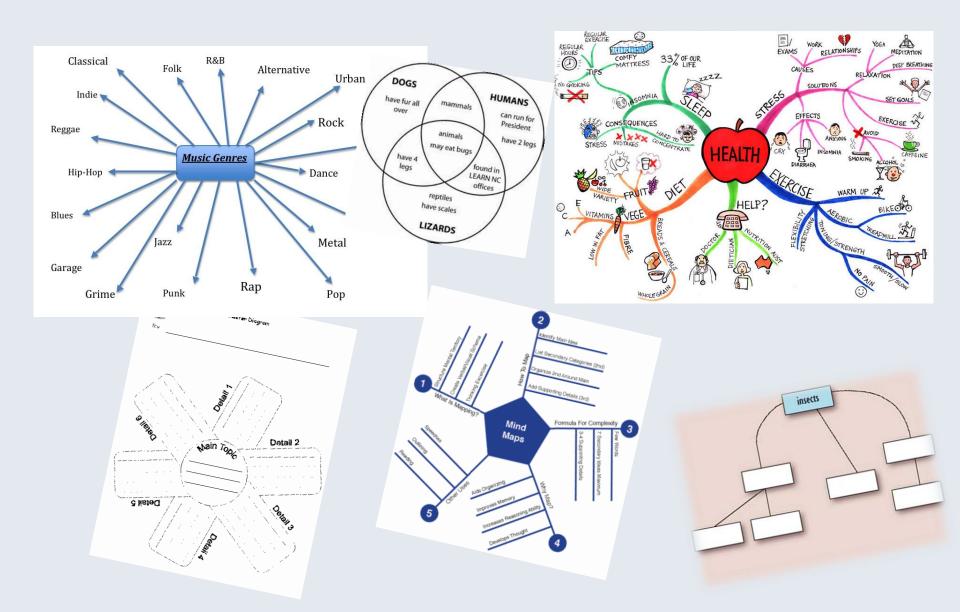


# Diagramming

Cone-shaped composite volcanoes form when layers of melted rock and ash build up around a volcanic vent. The melted rock rises up from deep underground and flows out of the top of the volcano. These volcanoes usually erupt quickly and can release clouds of ask and poisonous gases, They can be explosive and have causes disasters when they erupt. Two examples of composite volcanoes are Mt Vesuvius in Italy and Mt Fuji in Japan.

# VISUAL AND GRAPHIC ORGANISERS

Try out web 2.0 mind mappers eg: freemind, bubbl.us or popplet



# MONITORING



# Monitoring

### Description

Learners stop and think about the text and know what to do when meaning is disrupted.

### **Example questions/statements**

Is this making sense?

What have I/you learned?

Should I/you slow down? Speed up?

Do I need to re-read/view/listen?

What can help me/you fill in the missing information?

What does this word mean?

What can I use to help me understand what I'm/you're reading/ viewing/hearing?

### Example teaching idea

Coding: As they read students code the text with post-it notes

- ✓ I understand
- ? I don't understand
- ! I fixed it up myself

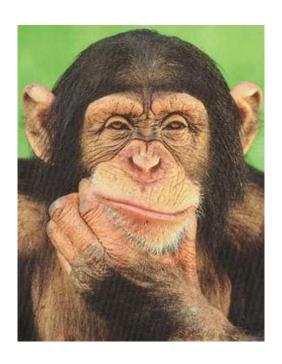
### MONITORING



Students need to actively monitor their own comprehension.

- A good reader stops and thinks about what they are reading.
- A good reader knows what to do when meaning has been lost.
- A good reader knows when a text is making sense and when it doesn't.
- A good reader understands the purpose for which they are reading.

### I DON'T GET IT!



The pictures inside your mind stop forming or moving

Your mind wanders and you begin to think of something else or do something else

Your questions are not being answered as you read

You don't understand how information or events link together

#### STRATEGIES FOR TEACHING STUDENTS HOW TO MONITOR

- Help students identify: unfamiliar or difficult words, unclear sentences and passages confusing concepts and content
- "I Wonder..."
- Patterned partner reading
- Exit Slips
- Coding the text with post it notes:
- √ I understand
- ? I don't understand
- ! I worked it out myself
- \* Wow!

What does this word mean?

This part doesn't make sense... I need to read it again...

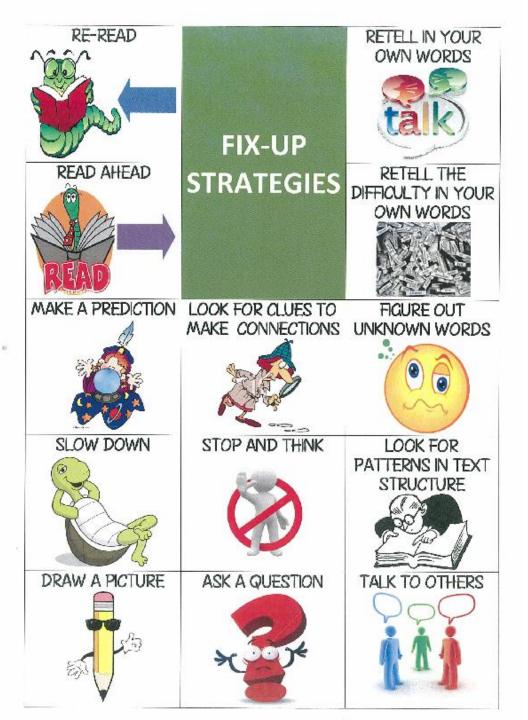
I was confused so I thought about what I already knew about this topic

What can I use to help me understand what I'm/you're reading/viewing/hearing?

Are my questions being answered as I read?

The pictures in my mind have stopped forming...I need to go back a bit...





# SUMMARISING



# Summarising

#### Description

Learners identify and accumulate the most important ideas and restate them in their own words.

#### Example questions/statements

What things will help me/you summarise this text – list, mind map, note-taking, annotations, etc?

What are the main ideas and significant details from the reading/ viewing/listening?

If you were to tell another person about the text read/viewed/heard in a few sentences, what would you tell them?

What is the main theme? How is it connected to the world beyond the text?

In what significant ways does this text relate to/elaborate on the topic that you have been investigating?

Can you create a metaphor for the text that you have read?

#### Example teaching idea

Key words: Students highlight words they believe are key to understanding the passage. These words are written on post-it notes and placed on the page. After reading the students close the book and arrange the key words in an order that supports a cohesive summary.

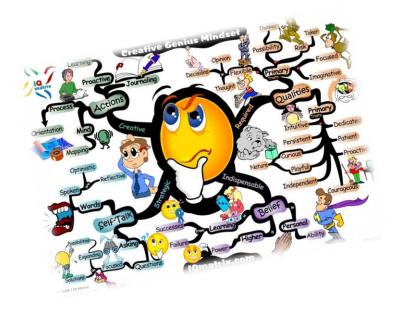
#### **SUMMARISING**

Learners identify and accumulate the most important ideas and restate them in their own words

#### STRATEGIES FOR TEACHING STUDENTS HOW TO SUMMARISE

- Think-Pair-Share-Square
- VIP
- I Remember...
- \$2.00 Summary
- Two-Word Strategy
- Dictagloss
- Key Word strategy
- Seven Strips
- Give Yourself a Hand
- My Partner Said
- Concept maps
- Exit Slips





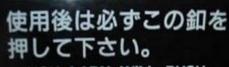
Summarise the main idea in one or two

sentences. Think, pair and share.





A Nice Electric Shock 敏銳電感



YOU LADY WILL PUSH THIS BUTTON BEFORE LEAVING.



โปรดระวังกระเป๋าสตางค์ และ ทรัพย์สินของท่าน

PLEASE BEWARE OF YOUR BELONGINGS







### Exit Slip



One thing I learned today....

Rate your understanding of today's topic on a scale of 1-10 (10=Understanding it all). What can you do to improve your understanding?



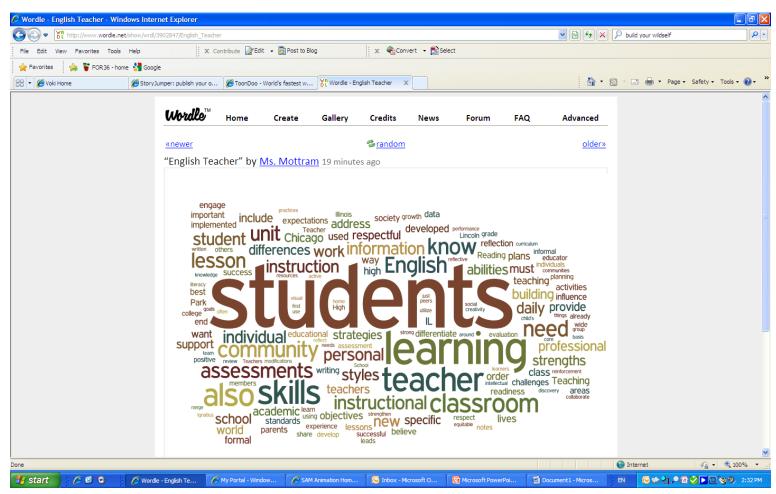


One thing I didn't understand today was:

Discuss one way today's lesson could be used in the real world.

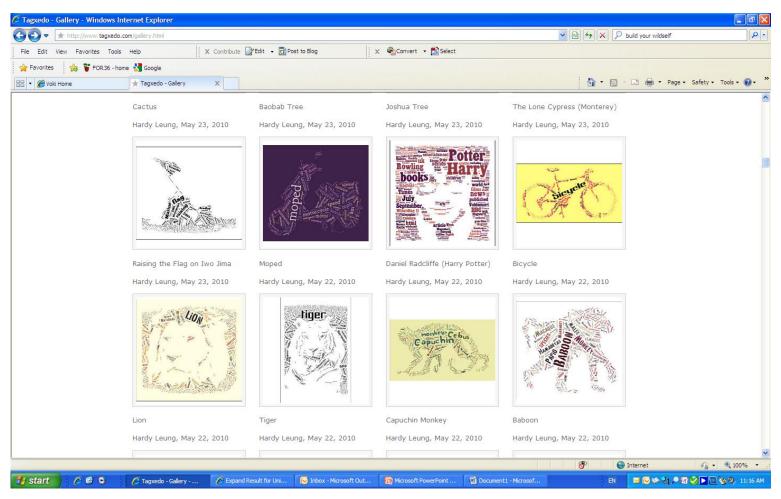


### **WORDLE**



http://www.wordle.net/

### **TAGXEDO**



http://www.tagxedo.com/gallery.html

### USING TOPIC SENTENCES TO SUMMARISE

#### Instructions:

- 1. Read the heading What words do you think you would find in this text?
- 2. Read the first and the last paragraph What is the text about? Write a one sentence summary.
- 3. Read the first sentence in each paragraph Draw a diagram that summarises what the text is about.
- 4. What questions do you think will be answered by this text?
- 5. Read the whole text How does this text match with what you already know about this topic?

#### Give Yourself A Hand

- Trace around your hand.
- Cut out.
- On the palm of the hand, write a summary of the learning.
- On each of the five fingers, record the five main or important points

#### TURN THE HAND OVER

- On the wrist, record your name
- On each of the four fingers and thumb write a question that will give you the answer for the corresponding main idea of important point
- On the back of hand, write one really tricky question.

Collect and share, and answer.



# **TWO WORDS**

	The Tw	o-Word Strategy	
Name of reader			
Title of book			
Word 1		Word 2	
i chose these word	s because		

May be obstocopied for classroom use. O poop by Linda Hout from Revist. Reflect. Retail: Undeted Edition. Portsmouth. NH: Heineman

3

# Conversational Stems to begin summarising...use in pair, group or class discussion:

- I think the most important ideas in this part of the text are...and the significant details are...
- The things that will help me summarise this text are...
- This relates to the topic in that...
- This part was about...
- The main idea is...
- First, ...Next, ...Then, ...
- The conflict at the centre of this play is...
- This table is a summary of...
- This concept map shows how...





# Reflections

Take a moment to note key messages on your VIP sheet:

How might you apply them to your teaching of students? How might you use these ideas to support students and teachers in your role as Teacher Librarian?

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Please complete evaluation sheet