

Learning Newsletter

*Assessment for Learning
(Part 1)*

The Marlborough Science Academy

All resources to be found on Faculty Drive in the teaching and learning folder

Learning is enhanced when;

- **we ask fewer but better questions**
- **seek better answers**
- **give students thinking and response time**
- **encourage students to ask their own questions**

Which is the most challenging question?

What is photosynthesis?

or

If plants need sunlight to make food, how is it that the biggest plants don't grow in deserts, where it's sunny all the time?



Inside this issue:

Question cube

Blooms

Thinking Hats Plenary

Question builder

Bookmark

KWL grids

Plus many more ideas

Purposes of Effective Questioning

In AfL, effective questioning serves two main purposes: to assist with assessment and to improve understanding.

Questioning for assessment is teacher-led. It helps you obtain evidence about where students are in their learning. This information about student knowledge, understanding and skills can then inform planning and the selection of teaching strategies to move students from where they are to where they need to go.

Questioning for understanding can be both teacher-led and pupil-led. When teacher-led, it can help students make connections that aren't immediately apparent and can unobtrusively guide students to the facts, solutions, and conclusions they need to discover. Student-led questioning is a key process in learning and allows them to develop independence, work through problems,

Rich questioning

Hands down; teacher selects student(s) to answer.

INCREASING "WAIT TIME" all students have the opportunity to think before answering.

Teachers try to wait for a few seconds more before asking someone to give an answer during a lesson. This allows all students to have a little more thinking time, which can make all the difference.



As this can be a little tiring on a raised arm, classes wait for a special signal

after a determined time, before putting their hands up. Sometimes the teachers will ask that all students have an answer or response ready after "wait time". This means that the class are able to build on or develop a pupil's idea, whether the response is correct or otherwise.

- Students encouraged to consult in their group/with a partner in order to formulate an answer. THINK, PAIR, SHARE
- Teacher involves a number of students in the answer to a single question creating the opportunity for discussion e.g. "What do you think?" "Do you agree with that answer?"
- Use of wrong answers to develop understanding.
- Appropriateness of questions; fitness for purpose.
- Quality of questions i.e. good question stems e.g. "Why does.....?"; "What if.....?"; "How would you.....?"; "Could you explain.....?"
- Opportunities for students to formulate questions. Reading Image 5 Whys 5 How's

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Thumbs up and down / traffic lights

Class members are able to respond with thumbs up (I know), thumbs together (I'm fairly sure I know) and thumbs down (I don't know) to questions asked. teachers can then use these responses for teaching to suit all children's needs. If a student thinks it was a good answer and has their thumb up you could ask we

Research question

Each group is given a topic or idea, e.g., Jupiter, Pollution. Students discuss and agree on three questions that will provide high quality information about the topic or idea.

Question Chain

Begin with one student and ask them a question. They then ask someone of their choice a question who then asked someone else...and so on.

Ask the teacher

Students work in groups for 10 minutes to come up with a question to beat the teacher. The question must be about the area of current study.

Objectives into question

Our objectives can be transformed into leading questions, e.g., How might we.....?

Connective words and phrases

Use connectives to extend questions. Because...? And therefore...? And this means...?

Guess the topic

Students work in small groups. They are provided with a topic to learn about and the necessary information, e.g., a period in history. They then join another group who have studied a different topic. Taking it in turns each group asks questions of each other until they determine the topic of the other group. The winning group is the one that uses the least number of questions to guess the topic.

Statements

Give students a statement e.g. All drugs are bad for you. Do you agree or disagree and give your reasons.

Give the answer

7+3+2=12. What strategies did you use to come up with the answer?

Aiding Questioning

Observation and Recall

What do you notice/observe about the (content)?

Tell me what you recall/remember about the (content).

Comparing and Contrasting

In what ways are and alike?

What differences do you find between and ?

Tell me what discrepancies you noted concerning and .

Grouping

Which of the items on the list go together for some reason?

How can we group these items?

Labeling

What are some appropriate names for this idea?

Based on the reasons for the groups, what would be some appropriate names or phrases?

Classifying

Which of the examples belong in the (label) group?

Find or make up an example of the (concept label).

Sequencing

What is the order of the following information based on (criterion)?

Inferring Causes/Effects/Qualities

What are the causes of _____?

What are some effects of _____?

What do you think is true about _____?

Predicting

What do you think will solve/happen as a result of _____?

(Probing Questions)

Refocusing Questions

Needed if learners are not doing the initiated thinking or are talking off the subject.

Clarifying Questions

Need if learners' responses are unclear OR if the teacher feels more appropriate language could be used to express the idea. Also used to help learners define words and bring meaning to their ideas.

Verifying Questions

Provide opportunities for learners to cite or provide evidence for their ideas or information. Learners verify information through/by:

1. Personal experience
2. Stating what authorities say is true
3. Using a principle or a generalization which exemplifies the information

Redirecting Questions

Designed to enhance learner-learner interaction. Use to elicit a variety of responses from different students.

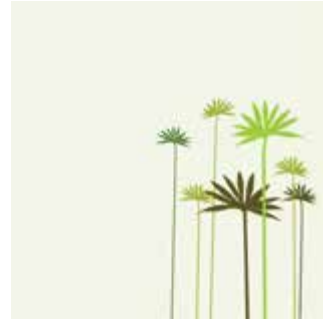
Narrowing the Focus Questions

Used to limit the content learners talk about.

Supporting Questions

Used to help learners "hook up" relationships between and among evidence and statements.

Processing stems



Clarifying

What do you mean by ?

Define .

What are you referring to when you say ?

State that in different words.

Draw that for me.

Verifying

Point to that characteristic.

How do you know that?

Give me an example of .

When or where have you experienced this before?

Refocusing

What makes you say ?

You are using another thinking skill, what led you to say ?

Narrowing the Focus

What do you (thinking skill) about (identify a specific detail)?

Tell me more about (a specific detail).

Redirecting

What else do you (thinking skill) about (specific detail)?

Someone else tell me what you (thinking skill) about the (specific detail).

Supporting

What is the reason for your grouping?

Why do you think _____ is an appropriate name for your group?

What is it that makes you say _____ is an example of _____?

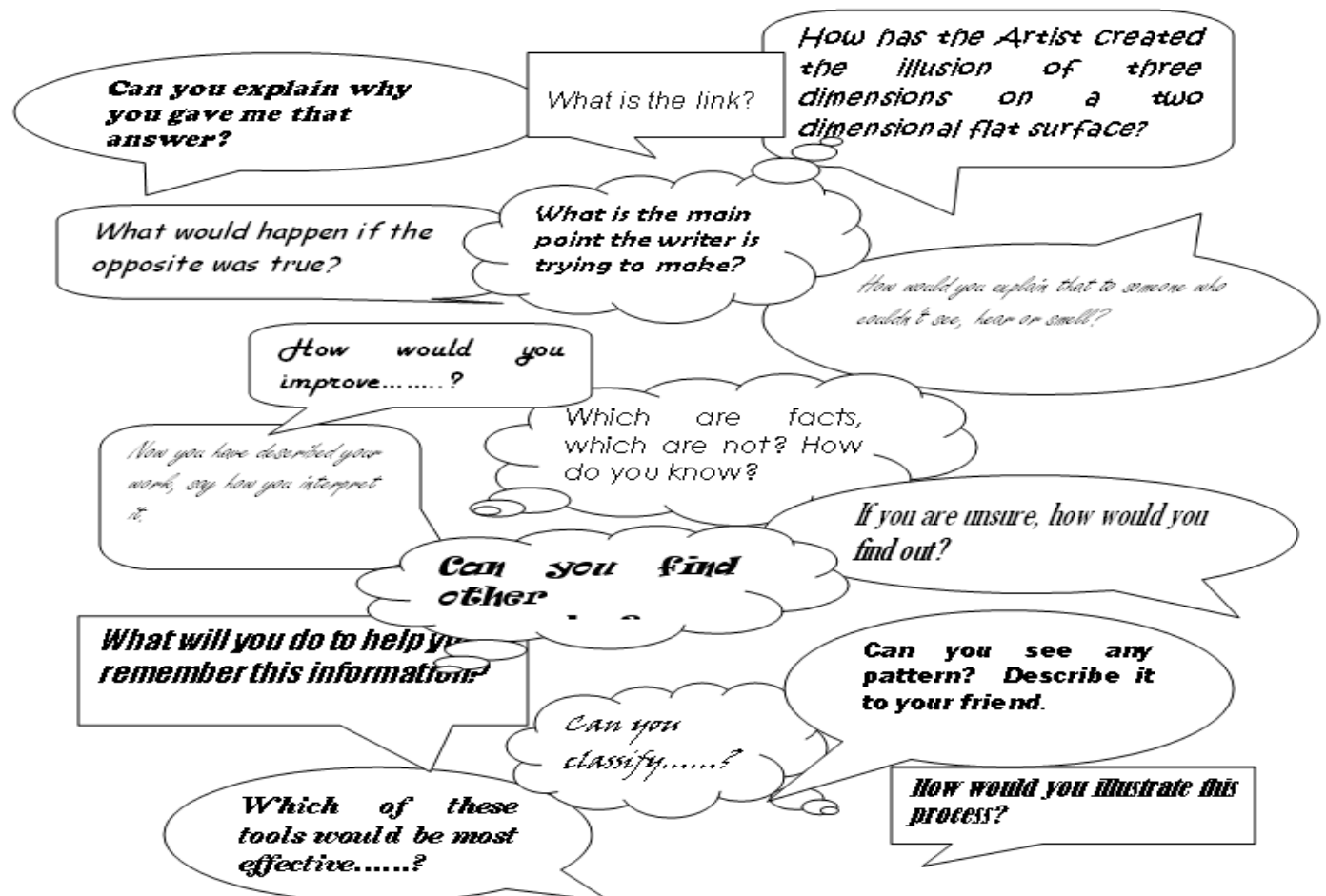
On what basis did you order these?

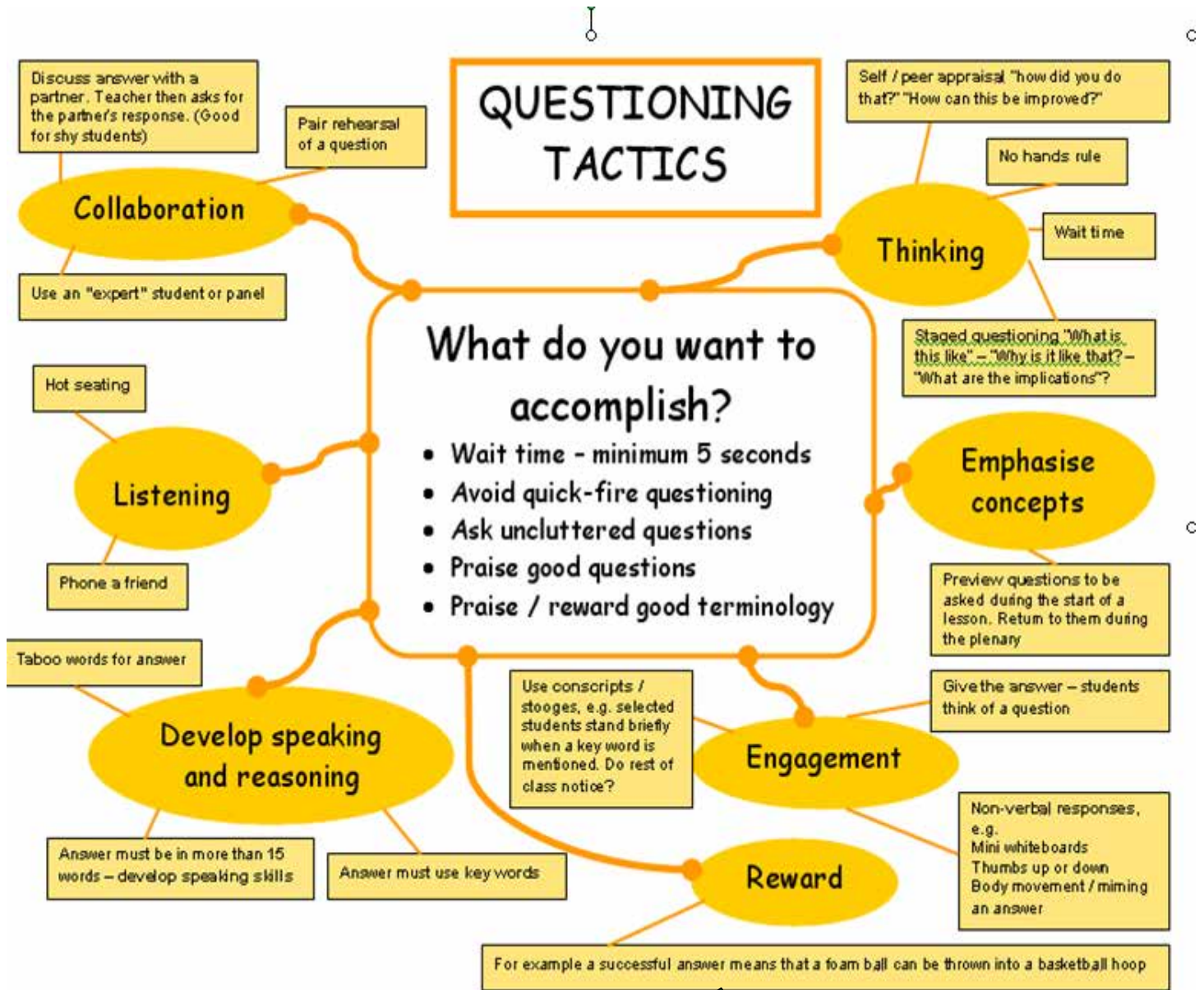
What makes you say _____ caused/is the result of/is the quality of _____?

What is the reason for thinking _____ will result in _____?

30 Questions for a Thinking Classroom

Why ? What ? When ? Where ? How ? Is it better than...?
What do you think ? Imagine that... ? What if...? Do you
need some thinking time ? Why not ? Is it worse than...?
What are the facts ? How do you feel ? What are the
problems ? What are the good things ? How do you want
to think about this ? How do you want to learn this ? Can
you do it a different way ? Do you see it ? Do you
understand ? Can you teach it to someone else ? Can
you use your idea somewhere else ? Can you split up the
problem ? Can you dance it, sing it, draw it, write it, paint
it, make it ? How can we think this out ? Are you ready to
learn? Are you ready to think? How do you want to learn?
How do you want to think?





Questioning pitfalls

We all fall into the trap of asking poor questions from time-to-time. Some of the most common are:

- Being unclear about why we are asking a particular question.
- Asking too many short answer (closed) questions.
- Answering our own questions.
- Not involving all students in our Q and A sessions.
- Asking difficult questions without building up to them.
- Dealing ineffectively with wrong answers or misconceptions.
- Asking too many questions at one time.

Tips for asking good questions

Some ground rules for producing good questions are:

- All answers are valued.
- It's OK to say you don't know.
- Provide time for students to think about their answers.
- Partially correct answers are good, they promote discussion and learning.
- Vary the style of questioning you use. Reframe difficult questions.
- Ensure all students feel 'safe' to give an answer.
- Ask questions that everyone can answer albeit at different cognitive levels.
- Probe wrong answers and misconceptions, e.g., why do you think that?
- Ensure that your questions are clearly linked to the lesson outcomes.

Quick Fact Trading Cards

| Quick Fact Trading Cards | Quick Fact Trading Cards |
|--------------------------|--------------------------|
| Who? | Who? |
| What? | What? |
| When? | When? |
| Where? | Where? |
| Why? | Why? |

Students use the trading cards to guide them through researching a new topic. Students can swap trading cards to see what questions have been asked and to try and answer the questions posed by other groups.

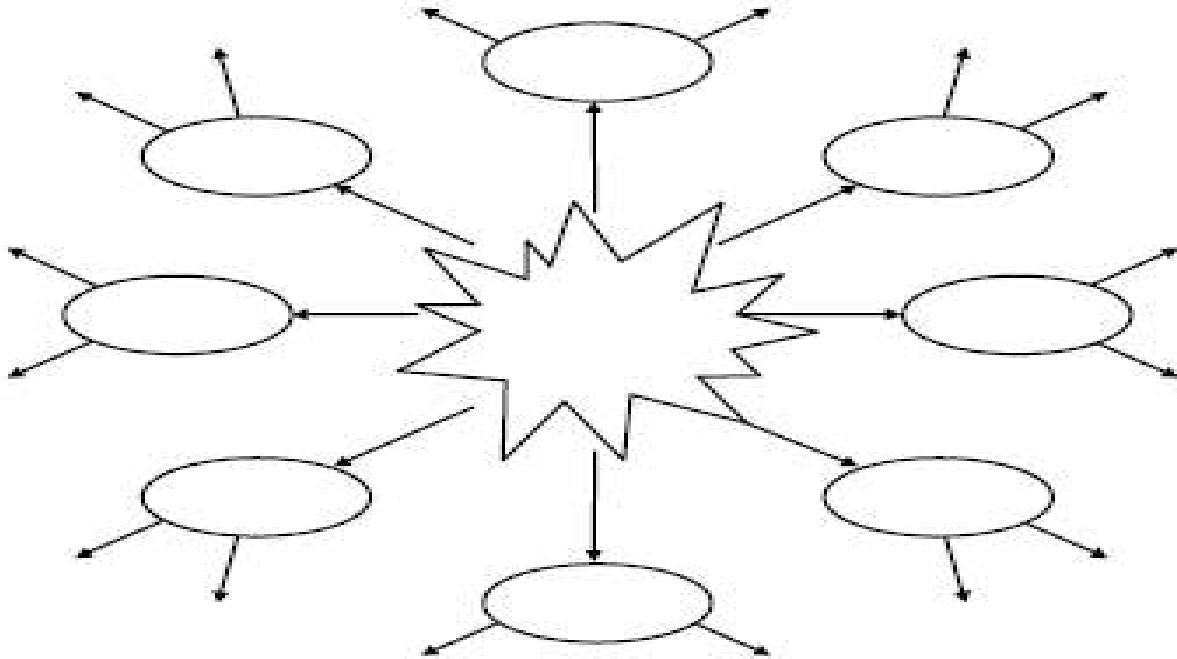
KWHLQ Chart

| What do I K now? | What do I W ant to know? | How will I find out? | What did I L earn? |
|-----------------------------|---------------------------------|----------------------|---------------------------|
| | | | |
| Questions I have now | | Next Steps | |
| | | | |

The chart above is a great way to show how learning has progressed moving from K to L and also a way of structuring research skills.

Webbing Questions

Write your topic in the centre starburst. Record questions you have about this topic in the surrounding ovals. Continue to develop questions about these questions to further explore and refine your topic.



Which questions would you really like to explore for your research project?

Big questions

These are significant questions that cannot be answered immediately. By its nature, a big question draws answers from many students and encourages them to come up with a list of smaller questions they need to answer before an answer to the big question can be formulated. Sometimes the smaller questions



Use this bookmark to allow students to become more familiar with the questioning terminology and what they mean.

12 Words You Should Know!



Analyze - take apart; look at closely; look at it from all angles; question

Compare/Contrast - same/different; connect it to something & then describe how it is alike or unlike

Describe - tell about; paint a picture with words; give details

Evaluate - give your opinion; judge; rate it or grade it

Explain - tell why; give reasons for; elaborate

Infer - read between the lines; use what you already know to make a judgment; find the hidden meaning

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Question Builder Frames

Who

is, are, was, were
did, does
can, could
would, should
will, might

What

is, are, was, were
did, does
can, could
would, should
will, might

When

is, are, was, were
did, does
can, could
would, should
will, might

Where

is, are, was, were
did, does
can, could
would, should
will, might

Why

is, are, was, were
did, does
can, could
would, should
will, might

How

is, are, was, were
did, does
can, could
would, should
will, might

Which

is, are, was, were
did, does
can, could
would, should
will, might



**Similar to writing frame.
Use the builder to structure questions**

Question Matrix

| | EVENT | SITUATION | CHOICE | PERSON | REASON | MEANS |
|-------------|-------------------|-------------------------|--------------------|------------------|------------------|------------------|
| Present | What is/are? | Where/when is/are? | Which is/are? | Who is/are? | Why is/are? | How is/are? |
| Past | What did/do/does? | Where/when did/do/does? | Which did/do/does? | Who did/do/does? | Why did/do/does? | How did/do/does? |
| Possibility | What can? | Where/when can? | Which can? | Who can? | Why can? | How can? |
| Probability | What would/could? | Where/when would/could? | Which would/could? | Who would/could? | Why would/could? | How would/could? |
| Prediction | What will? | Where/when will? | Which will? | Who will? | Why will? | How will? |
| Imagination | What might? | Where/when might? | Which might? | Who might? | Why might? | How might? |

Put all the key words onto **flashcards**. Make two different coloured sets: one with **what, where, which, who, why**, and **how**; and another with **is, did, can, would, will, and might**. Students select a card from each set and brainstorm all the questions they can think of containing those words.





Little Red Riding Hood

Fairytales

Purpose: See the different levels of thinking that can be required by a question

Introduce students to the following set of questions designed around Bloom's Taxonomy for the story *Little Red Riding Hood*. Groups of students each take a different fairytale or story and design their own questions.

| | |
|---------------|---|
| Remembering | Where did Little Red Riding Hood's grandmother live? |
| Understanding | What was the purpose of Little Red Riding Hood's visit to her grandmother? |
| Applying | If your grandmother was sick and you went to visit her, what would you take her? |
| Analyzing | Why do you think Little Red Riding did not recognize the wolf? |
| Evaluating | Do you think Little Red Riding Hood's mother behaved responsibly sending her to visit Grandma on her own? |
| Creating | How might the story have been different if Little Red Riding Hood had her cell phone? |

Alternatives to questions

Alternative strategy Example

- Invite students to elaborate**
 - 'Would you say a little more about that.'
 - 'I am not sure I'm certain I know what you mean by that.'
 - Speculate about the subject**
 - 'I wonder what might happen if ...'
 - Make a suggestion**
 - 'You could try ...'
 - Reflect on the topic**
 - 'Perhaps we now have a way of tackling this next time you ...'
 - 'Let's bring this all together ...'
 - Offer extra information**
 - 'It might be useful to know also that ...'
 - 'I think that I have read that ...'
 - Reinforce useful suggestions**
 - 'I especially liked ... because ...'
 - Clarify ideas**
 - 'We can tell this is the case by ...'
 - Correct me if I'm wrong 'But I thought we had agreed that ...'
 - 'So now perhaps we all believe ...'
 - Echo comments**
 - 'So, you think ...'
 - Summarise**
 - 'You seem to be saying ...'
- Non-verbal interventions** Eye contact, a nod or raised eyebrows to encourage extended responses, to challenge or even to express surprise



Thinking Hats Plenary Questioning

Six Thinking Hats

Purpose: Thinking critically, creatively, and reflectively

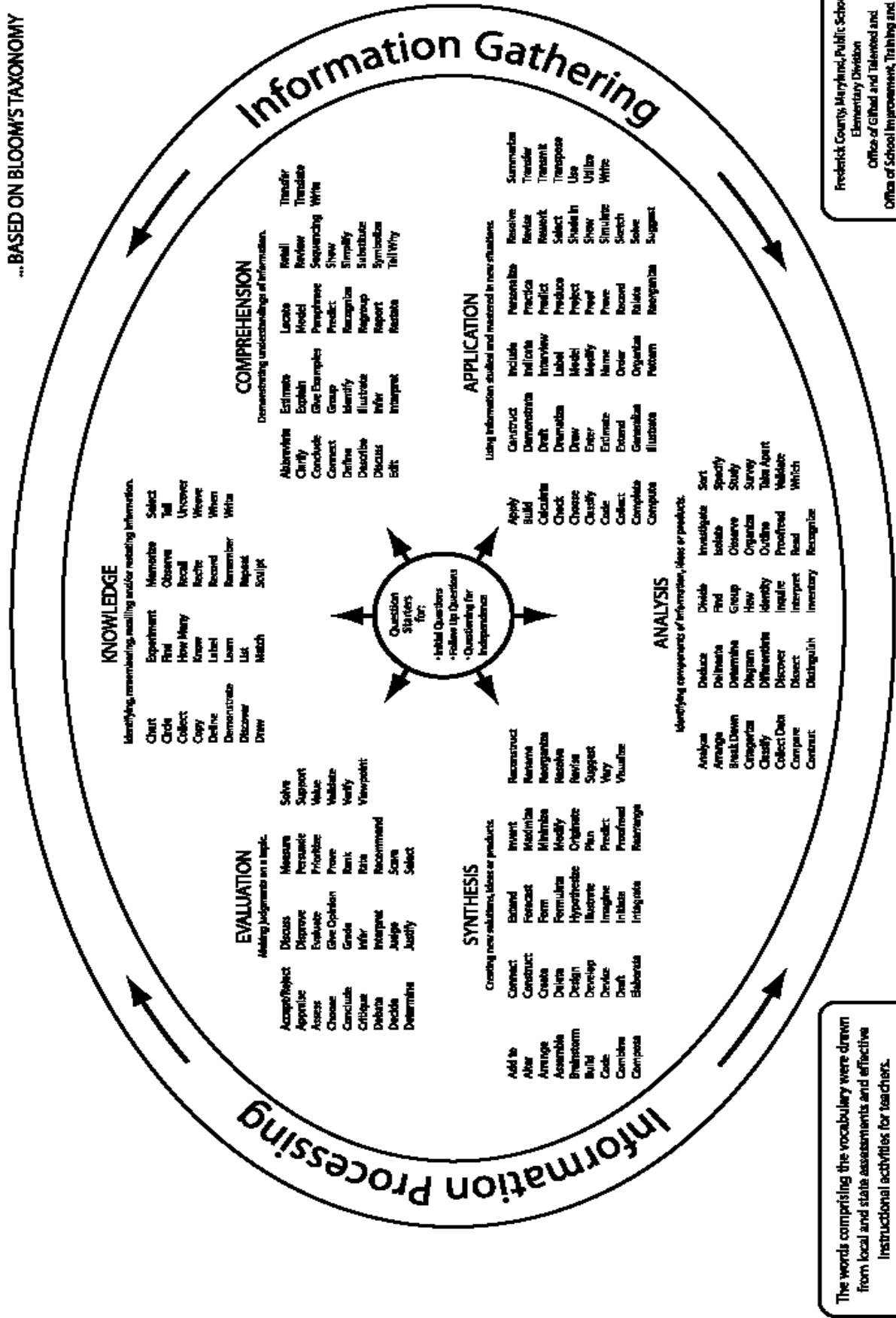
De Bono's six-hat thinking is a well-known strategy that encourages different types of thinking. It can be used to review student learning.

| Hat | General | English Literature Focus | Math Multiplication tables focus |
|---------------|---|--|--|
| White | What have you learned? | After reading the introduction, what can you say about the characters and setting? | What have you learned in the last week? |
| Yellow | What are the highlights of your work? | What would you say are some of the positives of living in this era/place/family? | What multiplication tables do you now know well? |
| Black | What things could you have done better? | What difficulties do you anticipate for the characters in the future? | What multiplication tables do you need to work on? |

| Hat | General | English Literature Focus | Math Multiplication tables focus |
|--------------|---|--|--|
| Red | What do you feel about your accomplishments? | How have your feelings changed about the characters? What issues in the book concerned you? | How do you feel about your progress with learning tables? |
| Green | What could you have done differently? | If you were the author, how would you have started the story differently? | Is there another way you could learn your tables? |
| Blue | What would you say about your progress? What questions do you now have? | What issues has the author tackled and ignored? What questions would you like to ask the author? | Overall, what do you think about your understanding of multiplication? |

VOCABULARY FOR DEVELOPING TIERED QUESTIONS AND TIERED ASSIGNMENTS

...BASED ON BLOOM'S TAXONOMY



Categorizing Questions and Focus Statements with Bloom

| | |
|--|---|
| Knowledge: identification and recall of information | |
| Prompts | Samples |
| List, Tell, Describe, State, Identify, Label, Recognize | Who/what/when/where...? Describe how... Identify those who... |
| Comprehension: organization, selection, and understanding of facts and ideas | |
| Prompts | Samples |
| Relate, Interpret, Summarize, Outline, Infer, Explain, Interpret | What is the main idea...? Explain what is meant by... What are facts? What are opinions? |
| Application: use of facts, rules, and principles in new situations | |
| Prompts | Samples |
| Apply, Prepare, Construct, Simulate, Discover, Solve | How is ____ related to ____? Why is ____ significant? Predict what would happen if... |
| Analysis: taking information apart and looking for relationships | |
| Prompts | Samples |
| Compare, Sequence, Contrast, Classify, Distinguish, Relate | How does ____ compare/contrast with ____? What's the relationship between ____ and ____? What are the causes and effects of...? |
| Synthesis: bringing ideas together to create new patterns and build personal meanings | |
| Prompts | Samples |
| Solve, Develop, Reconstruct, Create, Combine, Design, Rearrange | What might happen if you combined ____ with ____? What solutions can you suggest for...? Develop a plan for... Develop a point of view on ... How does ____ influence ____? What are the alternatives to...? |
| Evaluation: making judgments and decisions | |
| Prompts | Samples |
| Recommend, Rank, Prioritize, Appraise, Justify, Defend, Criticize | What is the most important.... and why? Which is better, logical, valid, appropriate? Judge the effects of... Appraise the situation and defend your opinion on... |

Bloomin Questioning

Compare and discriminate
between ideas;
Explain/assess the value of
theories;
Verify value of evidence/conclude;
Recognise subjectively/select

assess decide rank/rate
test measure
recommend convince
judge discriminate
support summarise

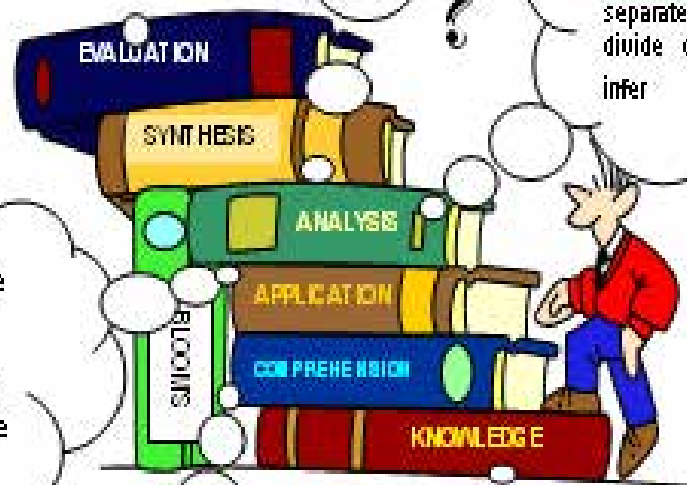
use old ideas to create new
generalise from given facts
relate knowledge
predict/draw conclusions
combine integrate modify
re-arrange substitute plan design
invent compose formulate
prepare generalise re-write

see patterns, order and
organise
recognise hidden meanings
identify components
analyse classify arrange
separate explain connect
divide compare select
infer

draw use show solve
discover change
complete
demonstrate calculate
illustrate examine relate
experiment interpret

match link
describe discuss
compare and contrast
predict estimate
explain/work out
summarise
distinguish classify
interpret

show tell name list
who what where when
describe label
collect identify
examine quote
tabulate



What if students don't ask good questions?

- Model interesting and varied questions and how you would respond.
- Make time for questions throughout the lessons.
- Instead of asking students questions, tell them the answers and have them pose appropriate questions.
- Display questions around the room with the answers that have been found by students.
- Create situations that arouse student curiosity.
- Initiate awards for the best questions. Categories could be determined by the class.
- Use student questions for discussions.
- Ask questions that make students want/need to seek outside of the classroom.
- Discuss different types of questions and identify them when used.
- Have students design quizzes for others.
- Use questioning taxonomies and strategies to structure and vary questions.
- Play games with questions.

Planning for questioning

Have an **IDEA** of what you are going to ask

Identify the key questions in relations to your learning objectives

Decide on the level, order and timing of your questions

Extend the questioning through subsidiary questions

Analyse anticipated answers and what your response will be to them



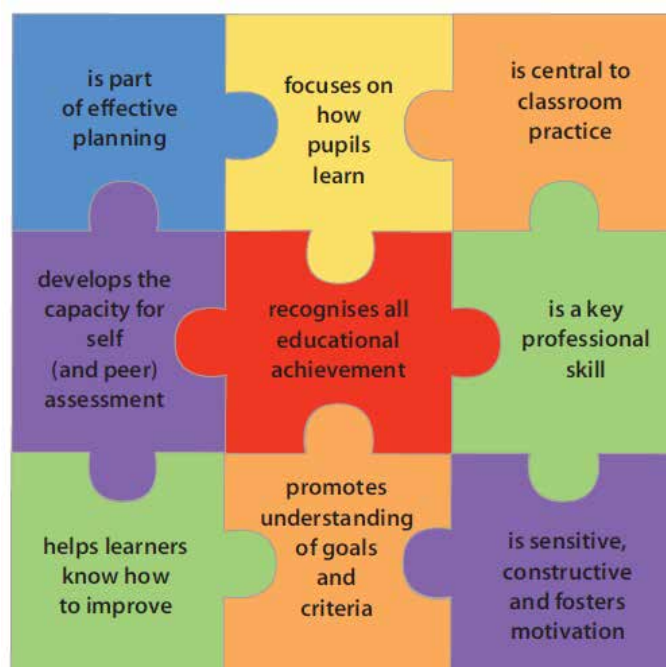
Question Awards

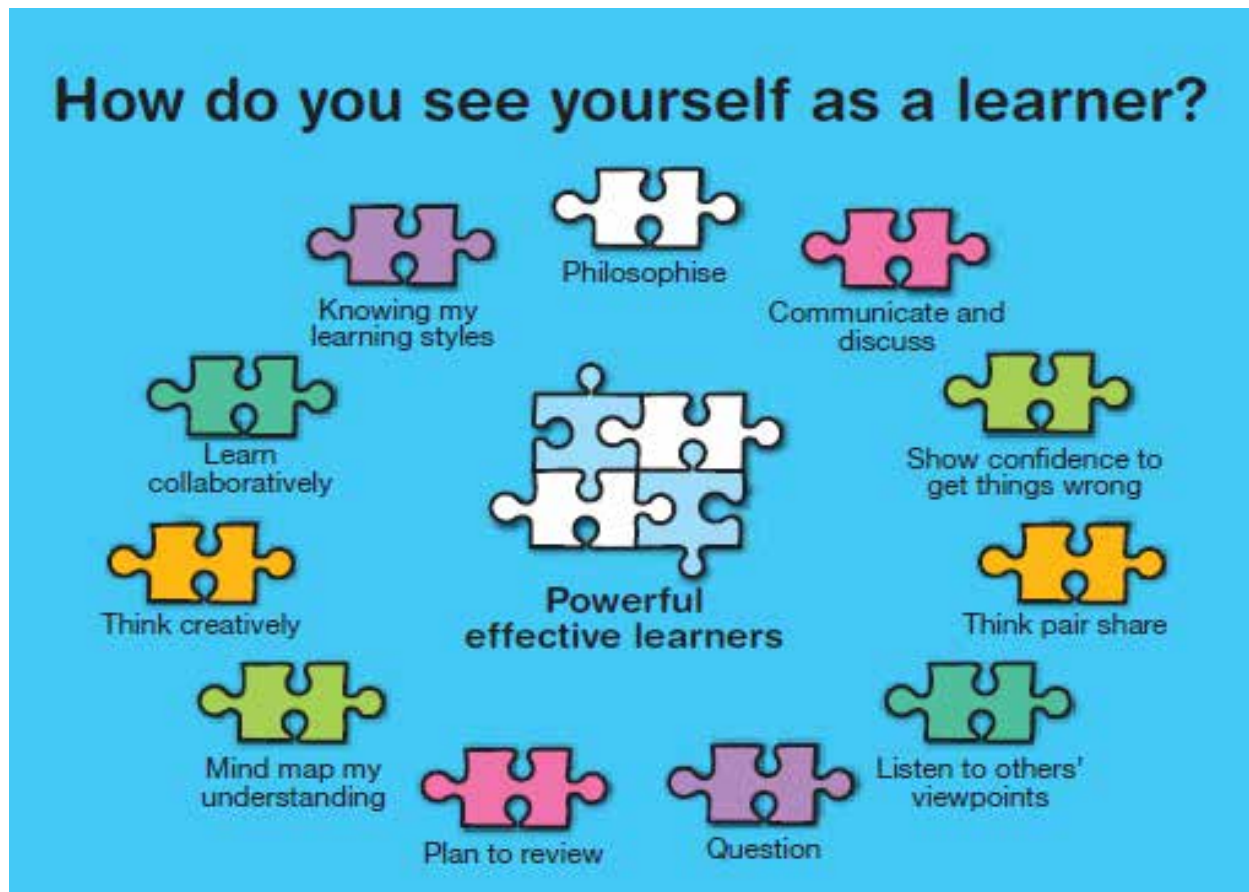
Purpose: Celebrate and encourage effective questioning

Students generate questions that might be nominated as most creative, most thought-provoking, most controversial, etc.

| | |
|--|-----------------------------|
| | Question Award |
| | Awarded to _____ |
| | For the most _____ question |
| | Question: _____ |
| | Signed: _____ |

Remember AFL





Why not share your ideas with others, or show new resources you have found !

If you want to talk about learning and teaching feel free to email me at m.fitzgibbon@marlborough.herts.sch.uk or drop into my office for a chat.