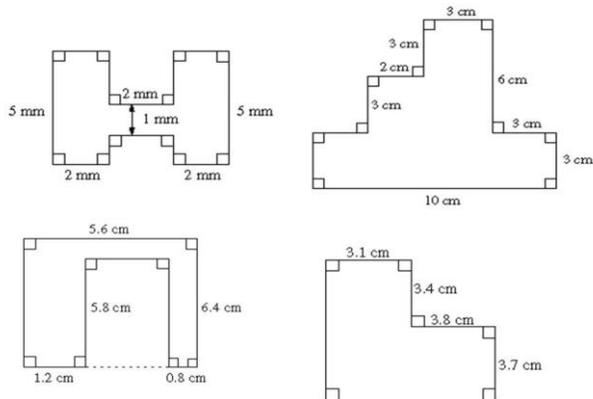


## WHAT'S IN A QUESTION?

**Who questions much, shall learn much and retain much. (Francis Bacon)**

<p>How to:</p>	<ul style="list-style-type: none"> <li>✓ Offer a safe atmosphere for students to ask questions.</li> <li>✓ Create 'hands down' policy – When the teacher talks, the students listen and later will be asked.</li> <li>✓ Bounce questioning- from teacher to students and back to teacher.</li> <li>✓ Asking for response – asks a few pupils and then ask the class to decide on which answer offers the best solution.             <ul style="list-style-type: none"> <li>* Ali, do you have anything to add to that response?</li> <li>* Ahmad, what are your thoughts?</li> <li>* Siti, do you have a question to ask Salmah?</li> </ul> </li> </ul>																		
<p>Wait and thinking time</p>	<ul style="list-style-type: none"> <li>✓ Lower order thinking questions – 3 seconds</li> <li>✓ High order thinking questions – 7 seconds</li> <li>✓ Pause</li> </ul>																		
<p>Responding to an incorrect answer</p>	<ul style="list-style-type: none"> <li>✓ Incorrect answers are wonderful.</li> <li>✓ Delve into pupil thinking and correct any misconceptions.</li> <li>✓ Misconception – bounce questions – look for solutions.</li> <li>✓ Similar question is inevitable.</li> </ul>																		
<p>Open and closed questions</p>	<ul style="list-style-type: none"> <li>✓ Open question: Allows discussion and thinking to take place.</li> <li>✓ Closed questions: Yes or No response.</li> <li>✓ Closed question and progressing to an open question.             <ul style="list-style-type: none"> <li>* Is 11 a prime number?</li> <li>* Why?</li> <li>* Give me another prime number that is less than 20.</li> <li>* So is 1 a prime number?</li> <li>* So can we now summarize the properties of a prime number?</li> </ul> </li> </ul>																		
<p>Bloom's Taxonomy</p>	<div style="text-align: center;"> <h3 style="margin: 0;">Bloom's Taxonomy (Revised)</h3> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Creating</td> <td>Can the student create a new product or point of view?</td> <td>assemble, construct, create, design, develop, formulate, write</td> </tr> <tr> <td style="text-align: center;">Evaluating</td> <td>Can the student justify a stand or decision?</td> <td>appraise, argue, defend, judge, select, support, value, evaluate</td> </tr> <tr> <td style="text-align: center;">Analyzing</td> <td>Can the student distinguish between different parts?</td> <td>appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test</td> </tr> <tr> <td style="text-align: center;">Applying</td> <td>Can the student use information in a new way?</td> <td>choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write</td> </tr> <tr> <td style="text-align: center;">Understanding</td> <td>Can the student explain ideas or concepts?</td> <td>classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase</td> </tr> <tr> <td style="text-align: center;">Remembering</td> <td>Can the student recall or remember the information?</td> <td>define, duplicate, list, memorize, recall, repeat, state</td> </tr> </table> </div>	Creating	Can the student create a new product or point of view?	assemble, construct, create, design, develop, formulate, write	Evaluating	Can the student justify a stand or decision?	appraise, argue, defend, judge, select, support, value, evaluate	Analyzing	Can the student distinguish between different parts?	appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test	Applying	Can the student use information in a new way?	choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write	Understanding	Can the student explain ideas or concepts?	classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase	Remembering	Can the student recall or remember the information?	define, duplicate, list, memorize, recall, repeat, state
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- ✓ Remembering: recall of facts
  - ↻ What is  $3 \times 4$ ?
  - ↻ What is the formula for the area of rectangle?
  - ↻ How many grams are in a kilogram?
- ✓ Understanding: Is the way in which data are organized into categories or methods are used.
  - ↻ Why is 16 a square number?
  - ↻ What does the ratio 5:2 mean?
- ✓ Applying: Information taken and apply it to different situations to reach a solution.
  - ↻ Find 31 percent of 72?
  - ↻ Simplify:  $\frac{9}{12} - \frac{2}{10}$
  - ↻ Find the area of the composite figure below.



- ✓ Analyzing: Breaking down a problem and looking at it in different ways.
  - ↻ Which is the square number closest to 40?
  - ↻ If  $x=3$  and  $y=7$ . Which is bigger:  $3xy$  or  $3+x+y$ ?
- ✓ Evaluating: The ability of making connections, creative thinking and stand by and justify decisions.
  - ↻ Which number between 20 and 30 has the most factors?
  - ↻ How do you show that fractions are equivalent?
  - ↻ Which is bigger, 16 percent of 100 or  $\frac{3}{4}$  of 100?
  - ↻ How do you check that your factorizing is correct?
- ✓ Creating: There is an ability to create new rules, create tasks, plan and produce.
  - ↻ A number when multiply with 7 resulting 49. Find the number.
  - ↻ Find  $x$  of a straight line when one of the angles is  $56^\circ$ .

Think, Pair, Share

- ✓ It is a cognitive rehearsal strategies allowing learners to develop their answers before they are shared collectively as a class.
- ✓ Think: 30 seconds
- ✓ Pair: 1 minute or so
- ✓ Share: After discussion and futher development.

Probing questions to develop a concept.	<ul style="list-style-type: none"> <li>✓ Support by visualisation.             <ul style="list-style-type: none"> <li>↗ Diagrammatic representation.</li> <li>↗ Bar model.</li> <li>↗ Tables.</li> </ul> </li> <li>✓ Trial and improvement.</li> </ul>
Summary	<ul style="list-style-type: none"> <li>✓ When planning a lesson plan think about the open questions you may want to ask.</li> <li>✓ Think about using the vocabulary associated with higher-order thinking skills.</li> <li>✓ If you are about to ‘tell pupils something’ then stop and rephrase the statement as a question to develop their thinking skills.</li> <li>✓ Encourage pupils to ask questions of you and each other.</li> <li>✓ Promote a safe learning environment in which mistakes are welcomed as part of the learning process.</li> </ul> <p>Remember:</p> <p style="text-align: center;"><i>It is not that I’m so smart. But I stay with the questions much longer.</i> (Albert Einstein)</p>

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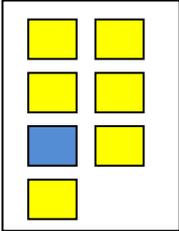
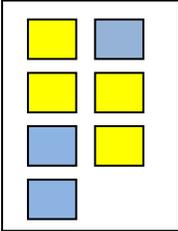
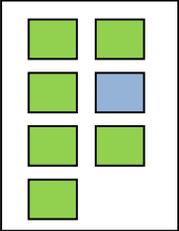
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## HOW DO I KNOW?

<p>Assessment</p>	<p>Assessment for learning:</p> <ul style="list-style-type: none"> <li>✓ Formative assessment.</li> <li>✓ Ongoing( written or verbal feedback)</li> <li>✓ Happen during learning process and it is interactive.</li> </ul> <p>Assessment as learning:</p> <ul style="list-style-type: none"> <li>✓ Assessing own learning, involves self assessment and peer assessment.</li> <li>✓ Involves in active participant of pupils and developing their metacognitive skills.</li> </ul> <p>Assessment of learning:</p> <ul style="list-style-type: none"> <li>✓ Summative assessment.</li> <li>✓ Involves teachers.</li> </ul>
<p>Against what</p>	<p>Questions you might want to consider in carrying out assessment:</p> <ul style="list-style-type: none"> <li>✓ How robust are your learning outcomes?</li> <li>✓ How accurate are the grades linked to the respective outcomes?</li> <li>✓ How did you arrive at the target grades for pupils?</li> <li>✓ Are the target grades fluid or fixed?</li> <li>✓ What do you do with information obtained from assessments?</li> <li>✓ Are pupils involved in their own assessment?</li> <li>✓ Do the students read your feedback?</li> </ul>
<p>Learning outcome and success criteria</p>	<ul style="list-style-type: none"> <li>✓ Learning outcome: summarize the purpose of the lesson.</li> <li>✓ Success criteria: a series of achievable chunks. Success criteria support pupils in assessing their own progress towards meeting the learning outcome. (use as a checklist). Success criteria allow for differentiation.</li> </ul> <p>Sample:</p> <p>Learning outcome: I am able to find the area of 2D shapes.</p> <p>Success criteria:</p> <ul style="list-style-type: none"> <li>↻ I can find the area of rectangle, a triangle and a parallelogram.</li> <li>↻ I can identify the correct lengths or height (triangle).</li> <li>↻ I can use the correct units of measurement for length and area.</li> <li>↻ I can find the area of composite areas.</li> <li>↻ I can find the area of shapes with 'missing places'.</li> </ul>
<p>Quality interaction with pupils</p>	<ul style="list-style-type: none"> <li>✓ Circulating and ensuring that all pupils are observed is very important.</li> <li>✓ Attend the weaker pupils first.</li> <li>✓ Offer help, encouragement and praise and if you spot an error quickly prompt it.</li> <li>✓ Note around interesting findings.</li> <li>✓ Join any group activity as an observer or assessor.</li> <li>✓ When group activity ended, find an opportunity to ask any concerns or new findings in the learning process.</li> </ul>

Target setting and tracking	<ul style="list-style-type: none"> <li>✓ Have you discussed what target grades really mean with each pupil?</li> <li>✓ Have they been involved in the process and do they understand the process?</li> <li>✓ Do their parents understand what a target grade means?</li> </ul> <p>Example:</p> <table border="1" data-bbox="548 275 1130 426"> <thead> <tr> <th>Target (40/100)</th> <th>Real marks</th> <th>Indicator</th> </tr> </thead> <tbody> <tr> <td></td> <td>55/100</td> <td>+ 1</td> </tr> <tr> <td></td> <td>40/100</td> <td>0</td> </tr> <tr> <td></td> <td>33/100</td> <td>-1</td> </tr> </tbody> </table>	Target (40/100)	Real marks	Indicator		55/100	+ 1		40/100	0		33/100	-1
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	40/100	0											
	33/100	-1											
Marking & Feedback	<ul style="list-style-type: none"> <li>✓ Marking should be worthwhile and have significant impact on pupils learning process.</li> <li>✓ Marking should be done over quality instead of quantity.</li> </ul>												
Should work be graded?	<ul style="list-style-type: none"> <li>✓ There should be an indication for grading for example on target, above target or below target.</li> </ul>												
What do you write?	<ul style="list-style-type: none"> <li>✓ Comments should support pupil progress.</li> <li>✓ There should also be dialogue between teacher and pupil.</li> <li>✓ Expect the pupils to give response.</li> </ul>												
Active marking	<ul style="list-style-type: none"> <li>✓ Using post-it           <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <div style="text-align: center;">  <p>High risk</p> </div> <div style="text-align: center;">  <p>Medium</p> </div> <div style="text-align: center;">  <p>Low risk</p> </div> </div> </li> </ul>												

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