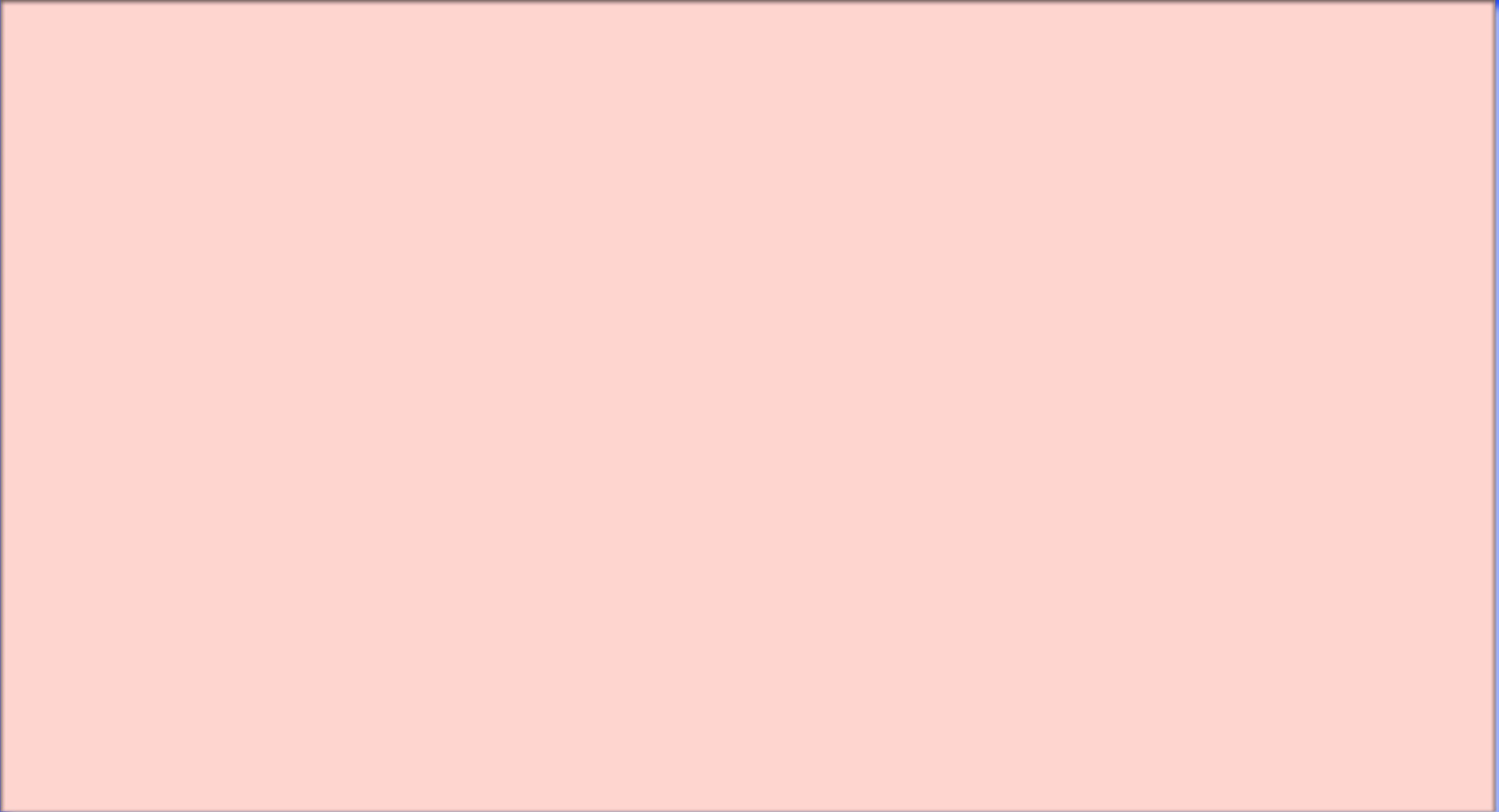


Focus



The Assessment Problem

The Assessment Problem

The Assessment Problem

Goals, Assessment and Learning

Goals, Assessment and Learning

The Assessment Problem

Goals, Assessment and Learning

The Assessment Problem



Goals, Assessment and Learning

Goals, Assessment and Learning

Practical Ways to use Assessment More Productively

Goals, Assessment and Learning

Practical Ways to use Assessment More Productively

Norman Reid

Goals, Assessment and Learning

**Goals
for
Education**



Goals for Education for the 21st Century

Goals, Assessment and Learning

**What
are we
to test?**

Goals, Assessment and Learning

*What they
know*

**What
are we
to test?**

Goals, Assessment and Learning

*What they
know*

*What they
can do*

**What
are we
to test?**

Goals, Assessment and Learning

*What they
know*

*What they
can do*

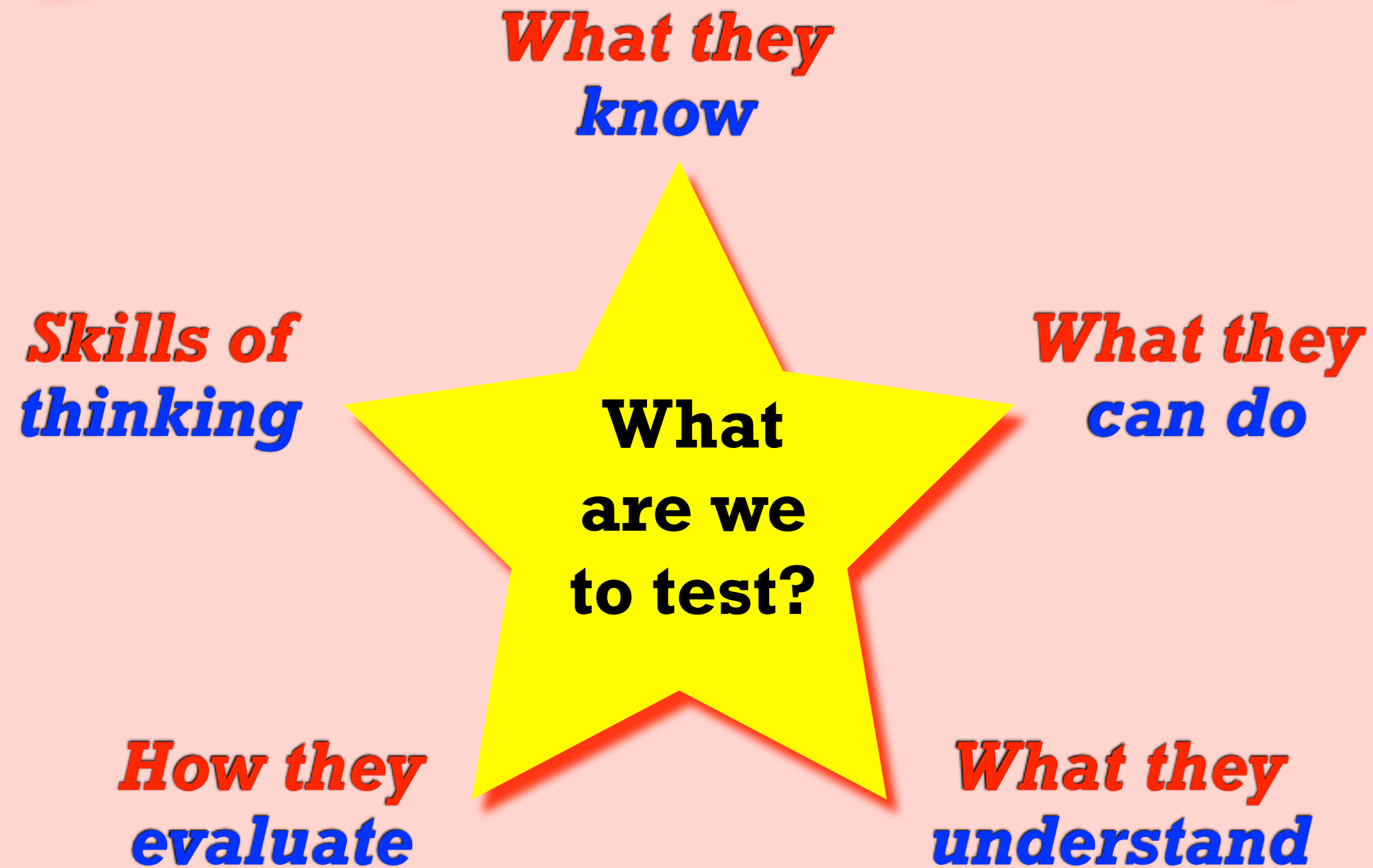
**What
are we
to test?**

*What they
understand*

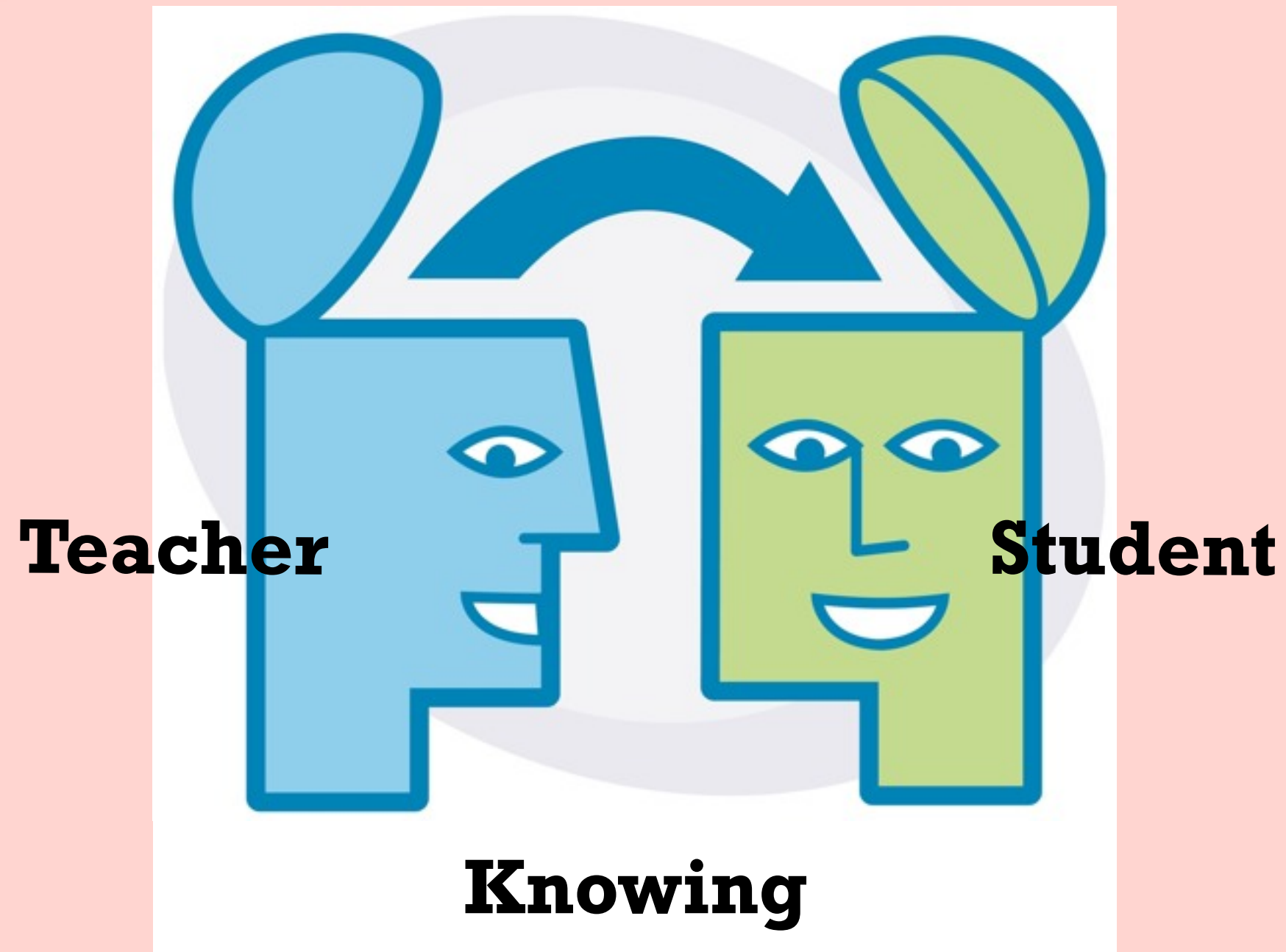
Goals, Assessment and Learning



Goals, Assessment and Learning



Goals, Assessment and Learning



Goals, Assessment and Learning



Understand

Goals, Assessment and Learning



Doing

Goals, Assessment and Learning

Evaluating



Goals, Assessment and Learning



Thinking

Goals, Assessment and Learning

Goals, Assessment and Learning

National Examinations

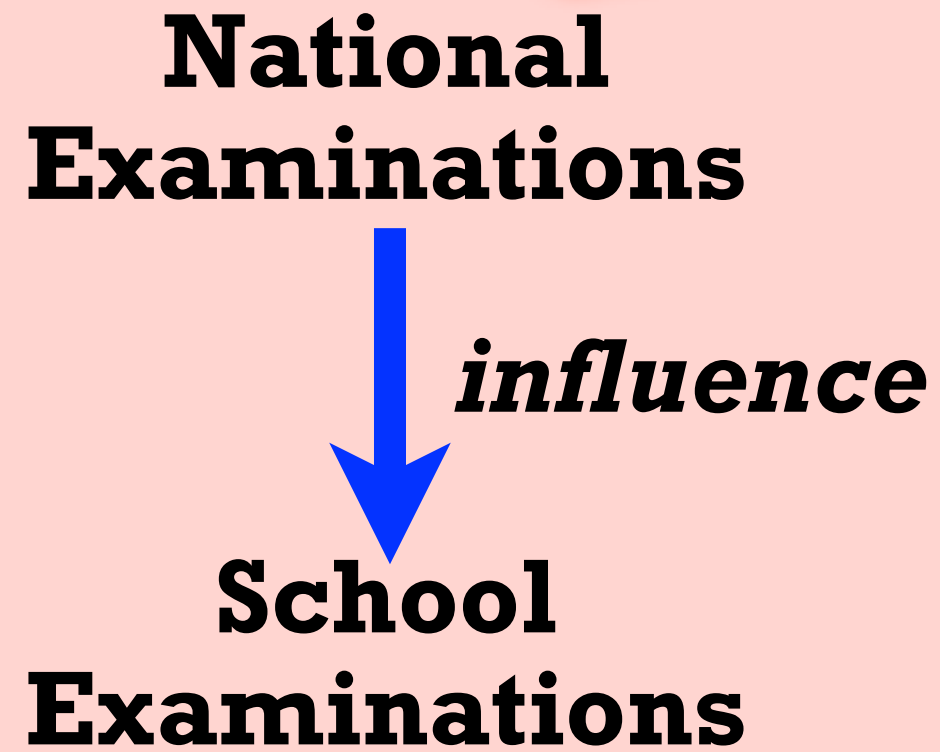
Goals, Assessment and Learning

**National
Examinations**

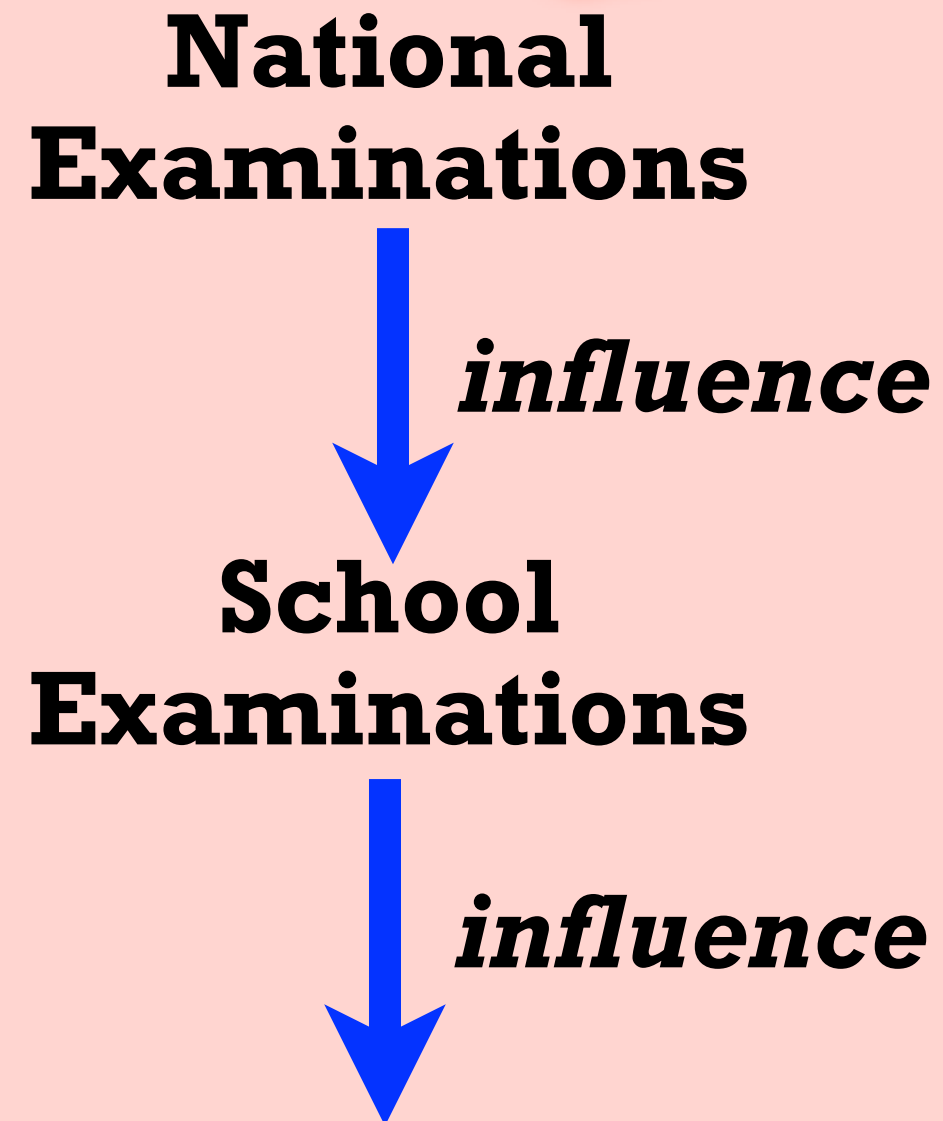


influence

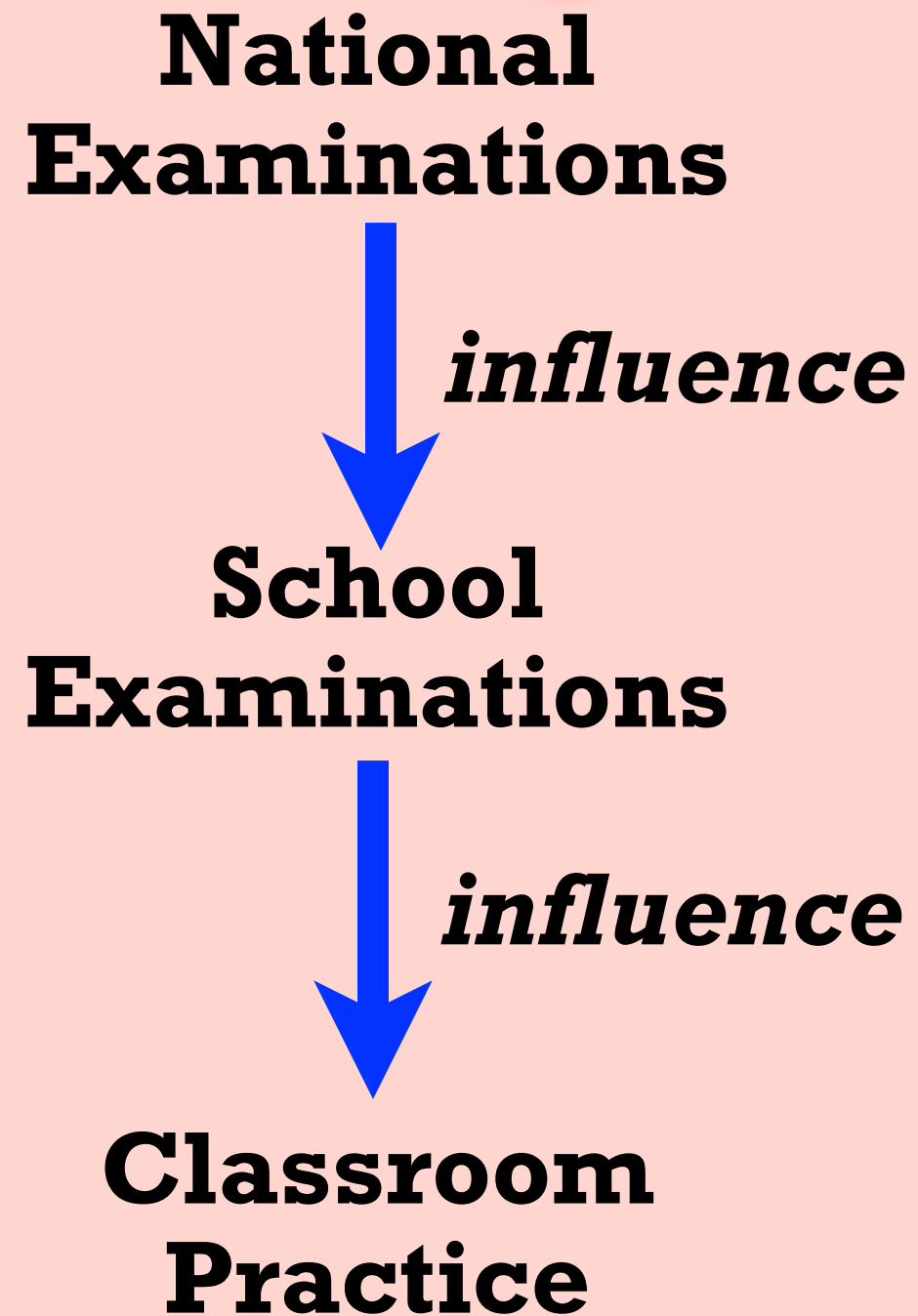
Goals, Assessment and Learning



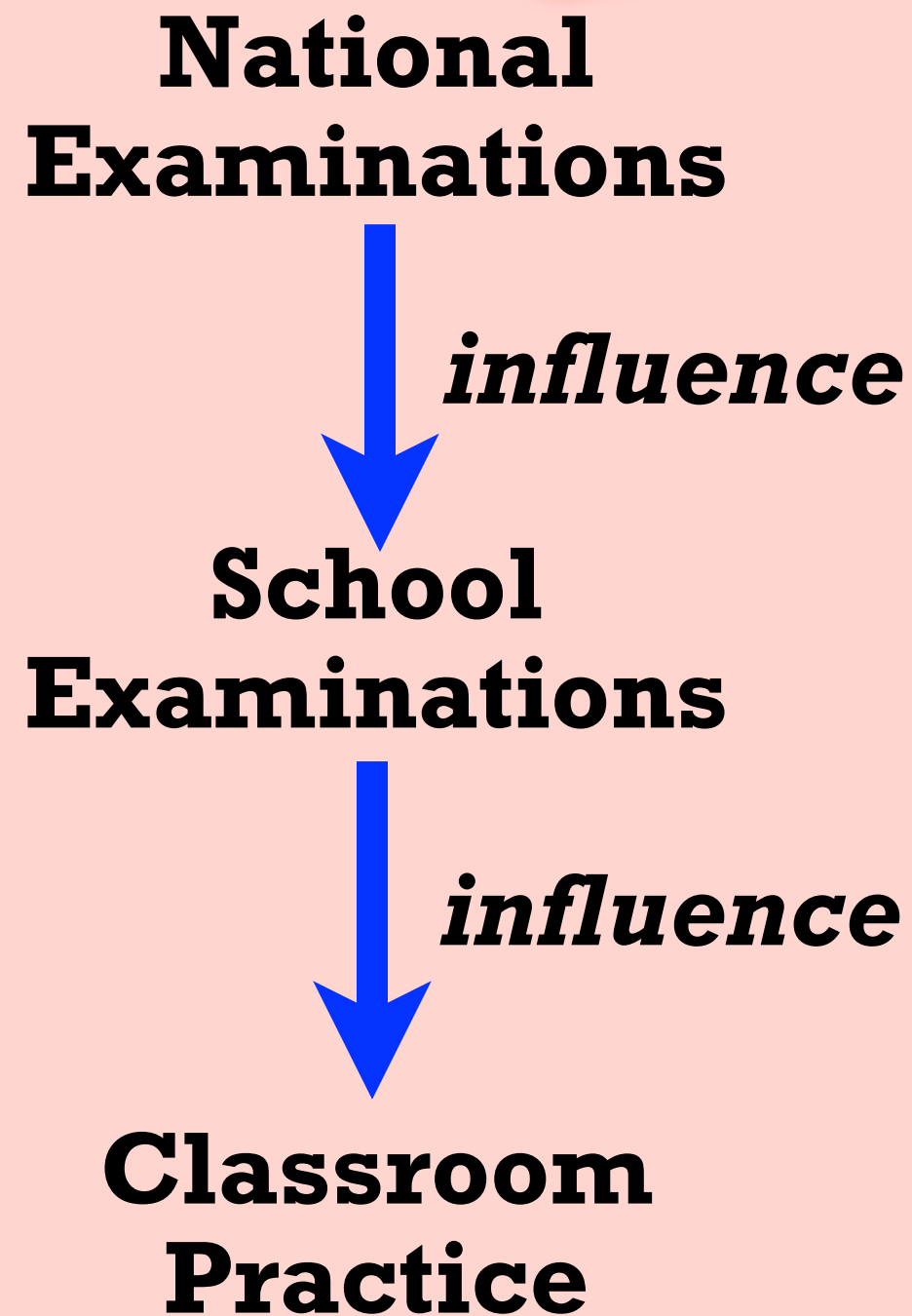
Goals, Assessment and Learning



Goals, Assessment and Learning



Goals, Assessment and Learning



**Senior school students
in their
final national examinations
All examinations tested recall**

Goals, Assessment and Learning

**National
Examinations**

influence

**School
Examinations**

influence

**Classroom
Practice**

**The key
lies here**



**Senior school students
in their
final national examinations
All examinations tested recall**

Goals, Assessment and Learning

Goals, Assessment and Learning

Simple Principles



Goals, Assessment and Learning

Simple Principles



Goals, Assessment and Learning



Simple Principles

- ☒ **Reward recall and memorisation: we will emphasise recall and memorisation**

Goals, Assessment and Learning



Simple Principles

- ☒ **Reward recall and memorisation: we will emphasise recall and memorisation**
- ☒ **National Examination systems **CONTROL** assessment in schools**

Goals, Assessment and Learning

Goals, Assessment and Learning

**Everything we ever learn
is stored in the brain**



Goals, Assessment and Learning

**Everything we ever learn
is stored in the brain**



**Assessment involves
exploring what is the
brain**

Goals, Assessment and Learning



**Assessment involves
exploring what is the
brain**

Goals, Assessment and Learning

How can we do this ??



**Assessment involves
exploring what is the
brain**

Goals, Assessment and Learning

Goals, Assessment and Learning

Can we reward

Goals, Assessment and Learning

Can we reward

Goals, Assessment and Learning

Can we reward



Understanding?




Goals, Assessment and Learning

Can we reward

-  **Understanding?**
-  **Doing?**





Goals, Assessment and Learning

Can we reward

-  **Understanding?**
-  **Doing?**
-  **Thinking?**

Goals, Assessment and Learning

Can we reward

-  **Understanding?**
-  **Doing?**
-  **Thinking?**
-  **Evaluating?**

Goals, Assessment and Learning

Can we reward

- **Understanding?**
- **Doing?**
- **Thinking?**
- **Evaluating?**

Can we use assessment

Goals, Assessment and Learning





Can we reward

- **Understanding?**
- **Doing?**
- **Thinking?**
- **Evaluating?**

Can we use assessment

Goals, Assessment and Learning

Can we reward

-  **Understanding?**
-  **Doing?**
-  **Thinking?**
-  **Evaluating?**

Can we use assessment

-  **To encourage learning?**

Goals, Assessment and Learning

Can we reward

- **Understanding?**
- **Doing?**
- **Thinking?**
- **Evaluating?**

Can we use assessment

- **To encourage learning?**
- **To guide future learning?**

Goals, Assessment and Learning

Can we reward

- **Understanding?**
- **Doing?**
- **Thinking?**
- **Evaluating?**

Can we use assessment

- **To encourage learning?**
- **To guide future learning?**
- **To show strengths and weaknesses?**

1972

Goals, Assessment and Learning

1972

Goals, Assessment and Learning

**Structural
Communication
Grids**

1972

Goals, Assessment and Learning

Structure

A Mass of a mole is 18g	B Mole of molecules of hydrogen	C Mass of a mole is 1g
D Mass of a mole is 17g	E Two hydrogen atoms linked together	F A mole of molecules of water
G A mole of atoms of hydrogen	H Two hydrogen atoms linked to one oxygen atom	I A mixture of hydrogen and oxygen atoms

1972

Goals, Assessment and Learning

Structure

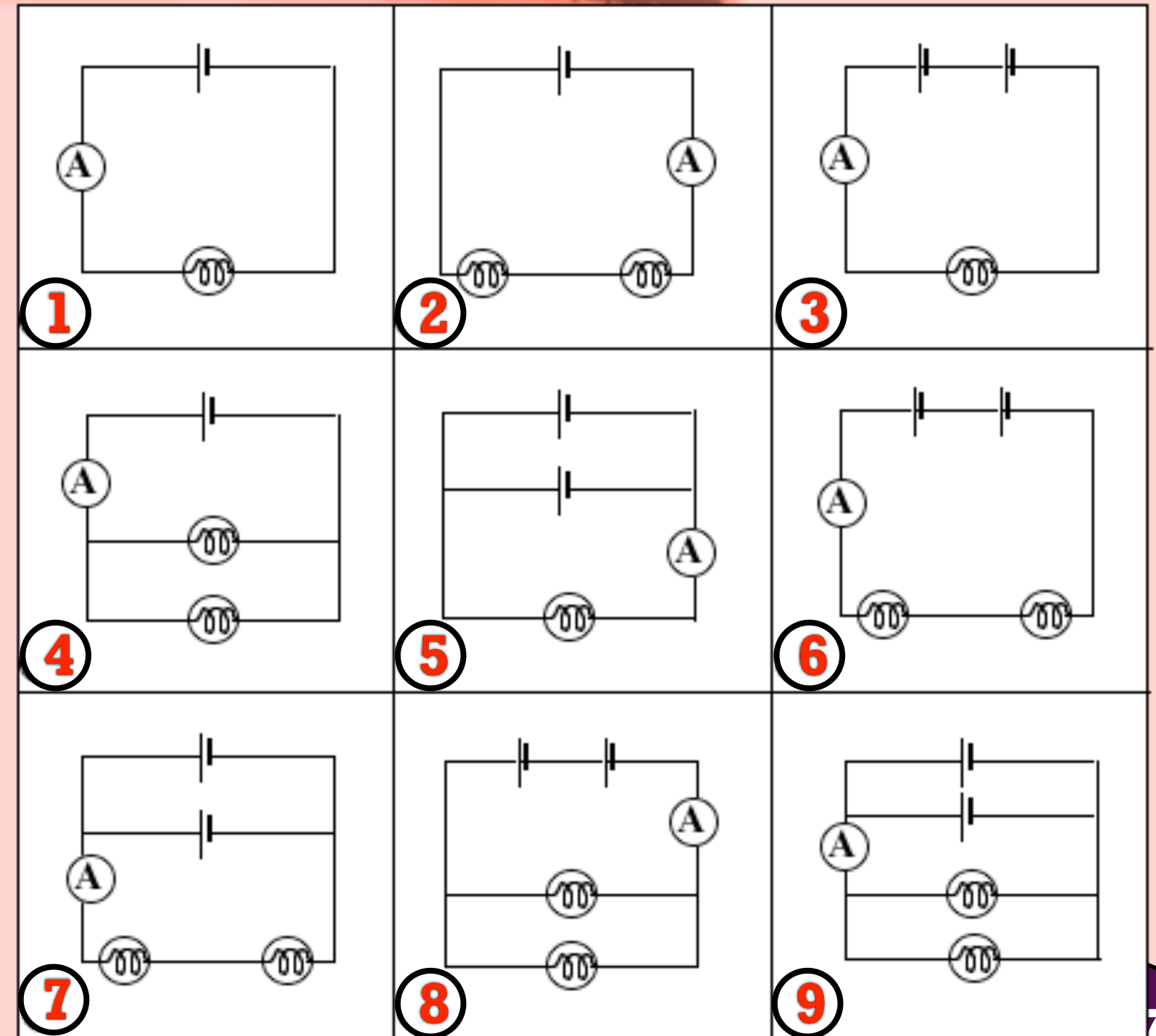
A Mass of a mole is 18g	B Mole of molecules of hydrogen	C Mass of a mole is 1g
D Mass of a mole is 17g	E Two hydrogen atoms linked together	F A mole of molecules of water
G A mole of atoms of hydrogen	H Two hydrogen atoms linked to one oxygen atom	I A mixture of hydrogen and oxygen atoms

Select *all* the box(es) where there are statements which are:

(a) **True** about the formula: H_2O ?

(b) **True** about the formula: H_2 ?

Goals, Assessment and Learning



Goals, Assessment and Learning

In the grid, there are 9 complete circuits.

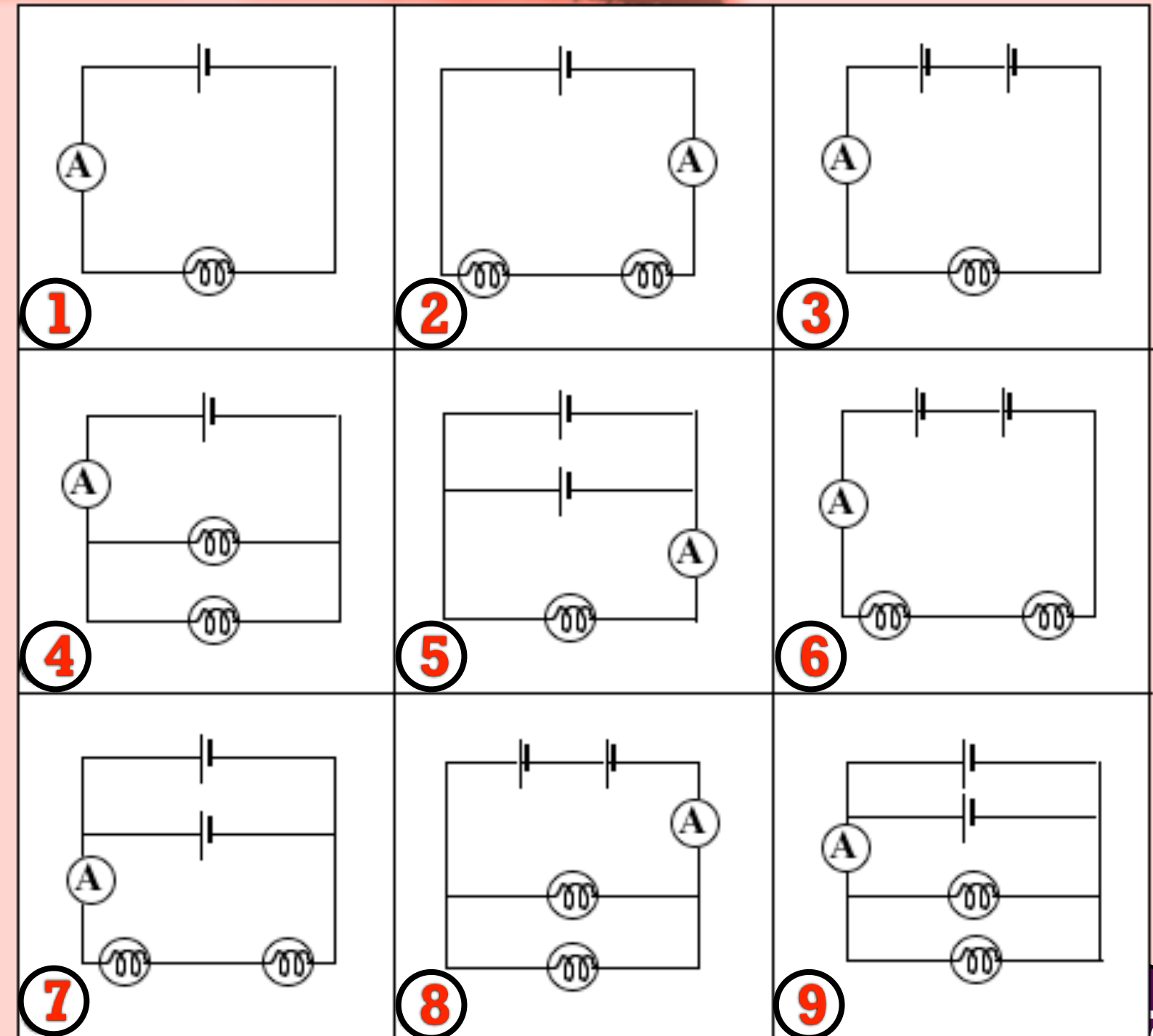
In each circuit, the voltage of the batteries is the same.

Also, the bulbs used are identical and the wires are resistance-free.

Select the box(es) to answer the following questions.

Boxes may be used as many times as you wish

Use the box numbers to show your answers



Goals, Assessment and Learning

In the grid, there are 9 complete circuits.

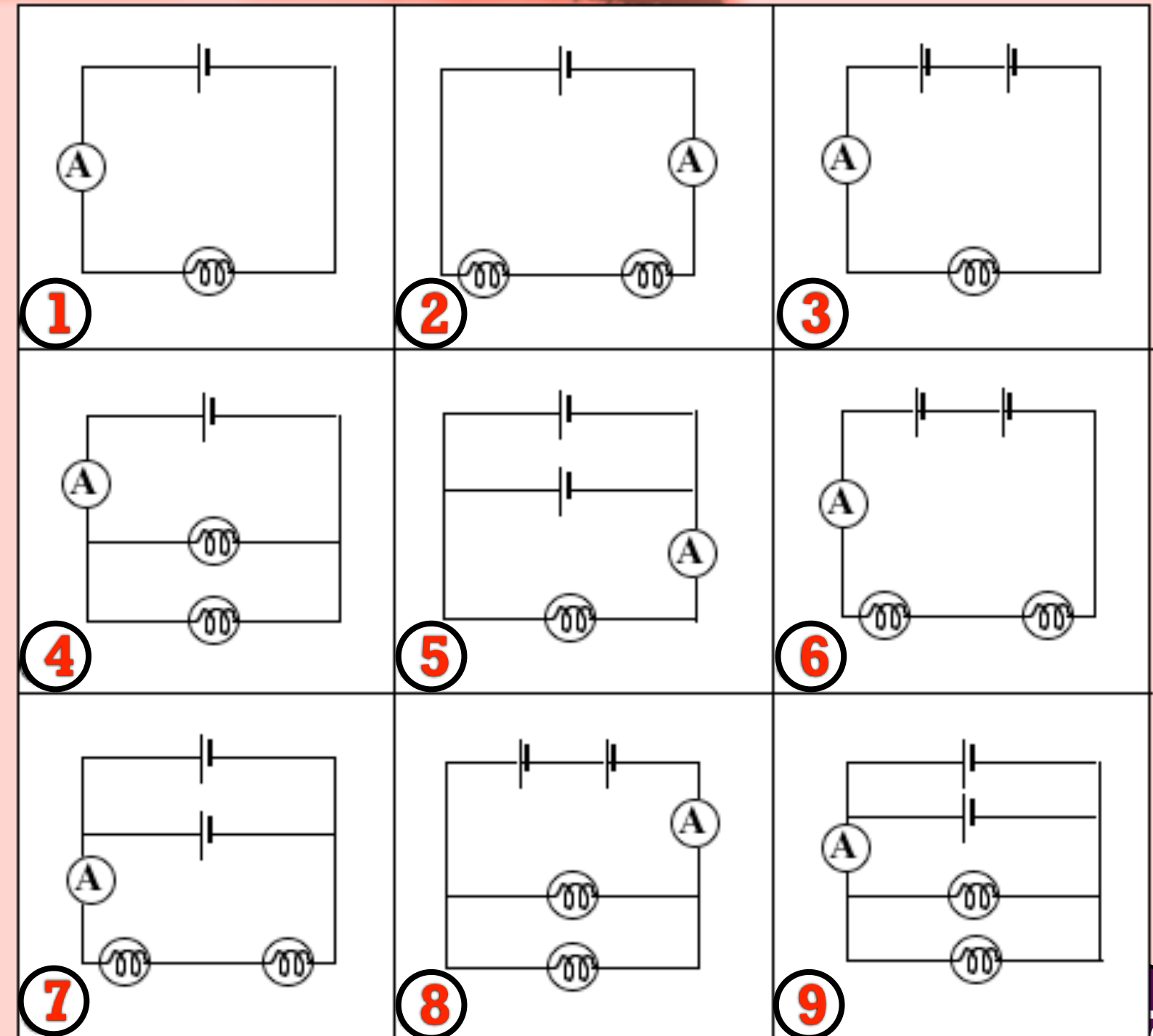
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Goals, Assessment and Learning

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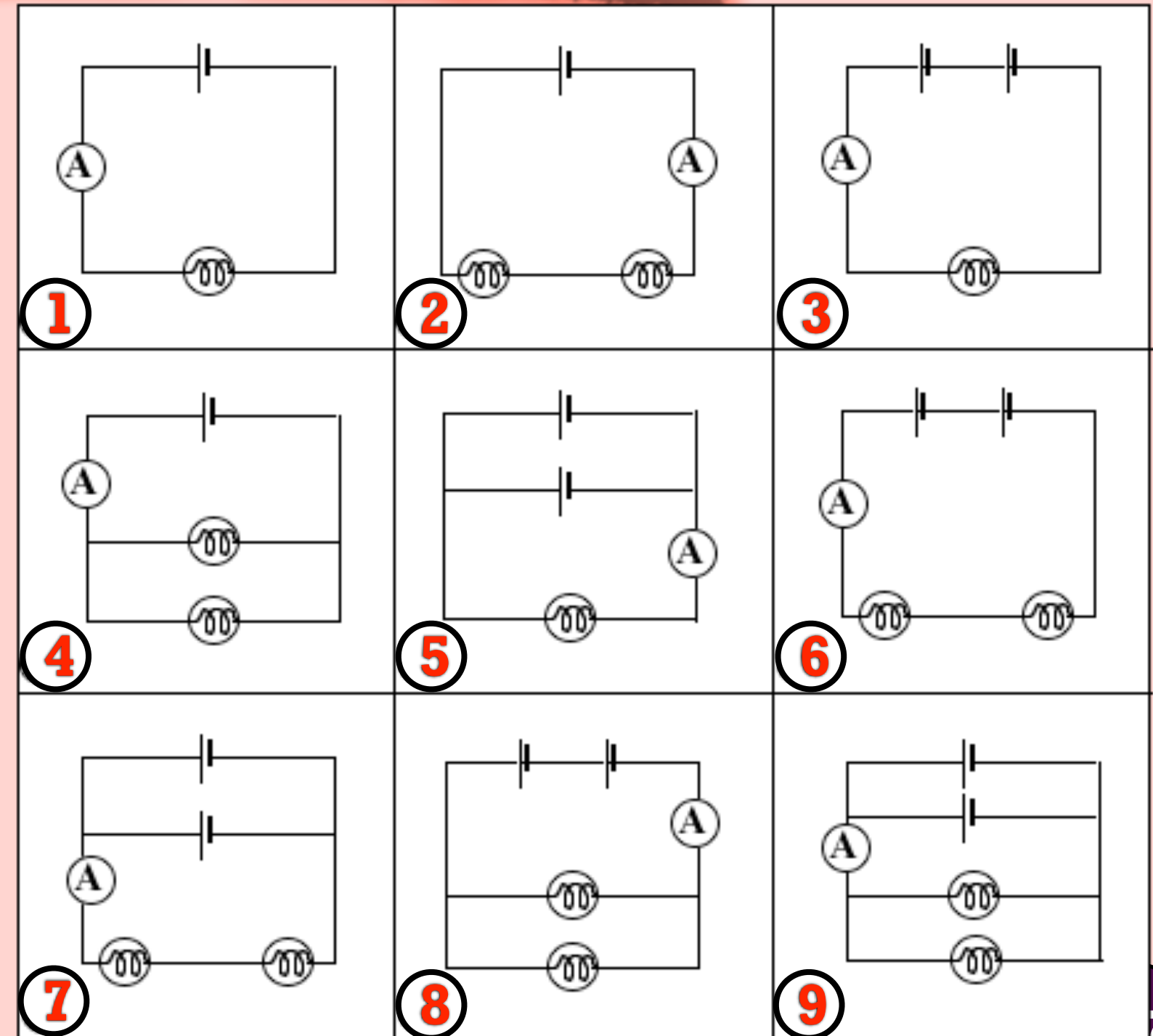
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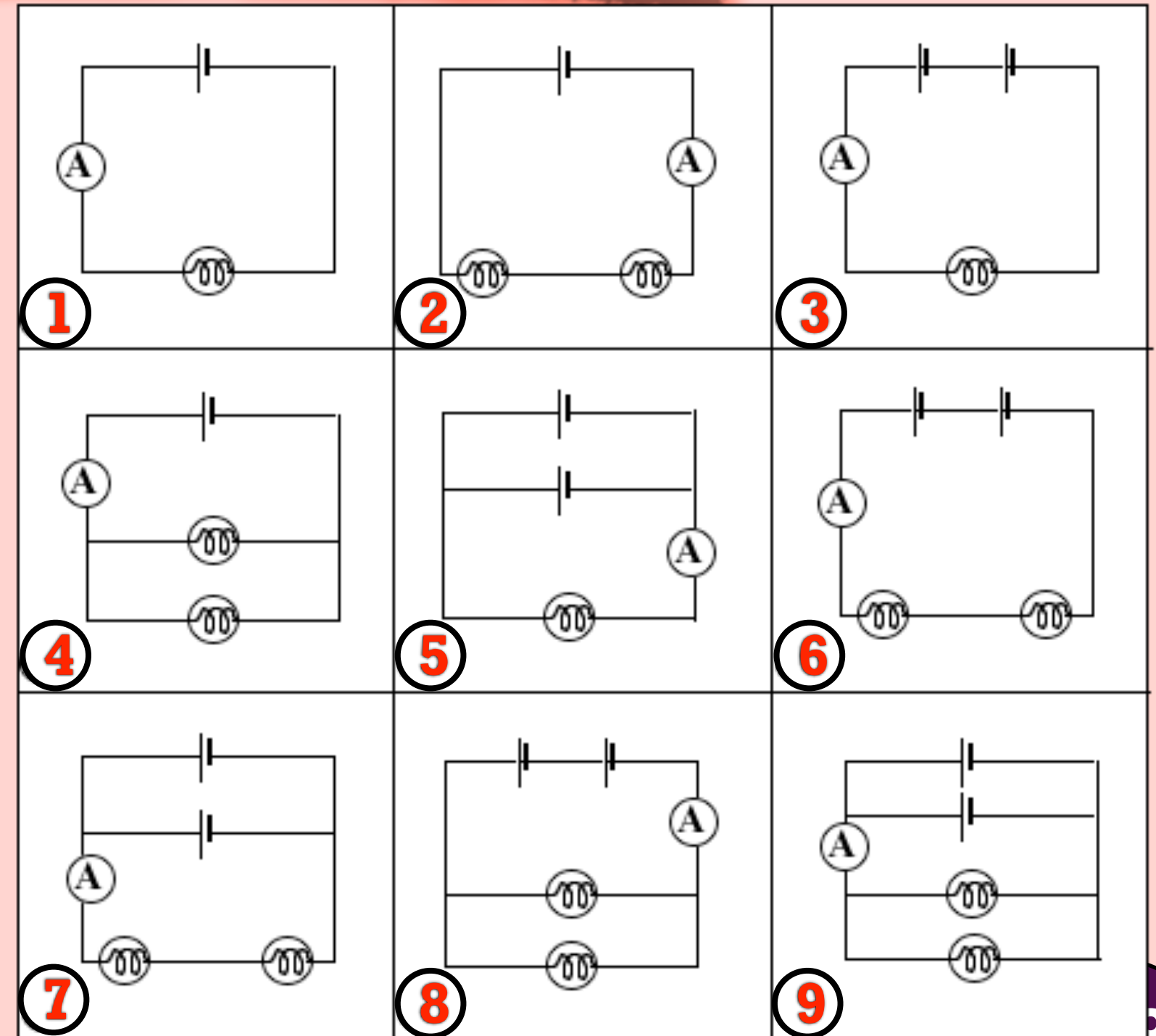
Select the box(es) to answer the following questions.

Boxes may be used as many times as you wish

Use the box numbers to show your answers

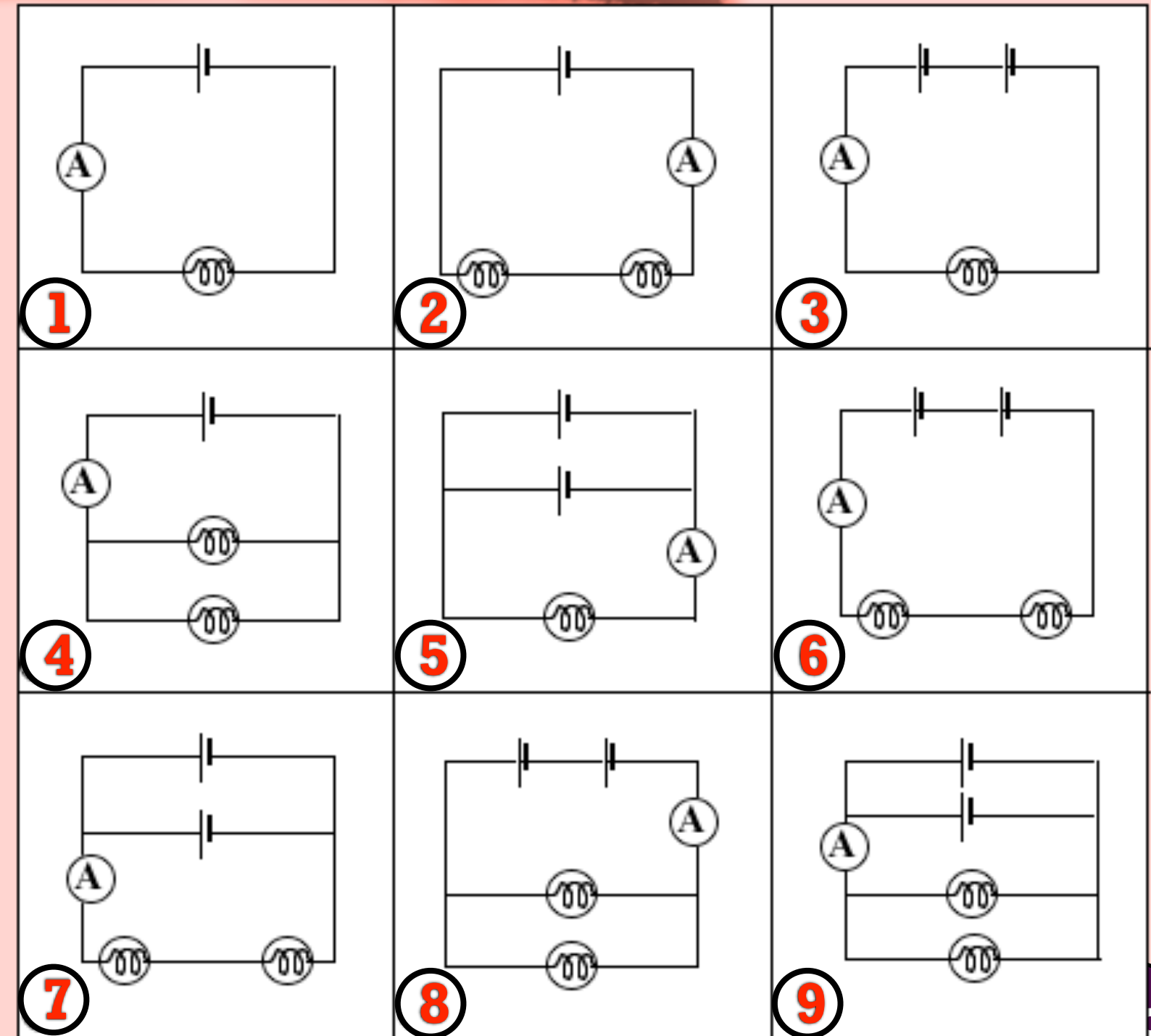


Goals, Assessment and Learning



Goals, Assessment and Learning

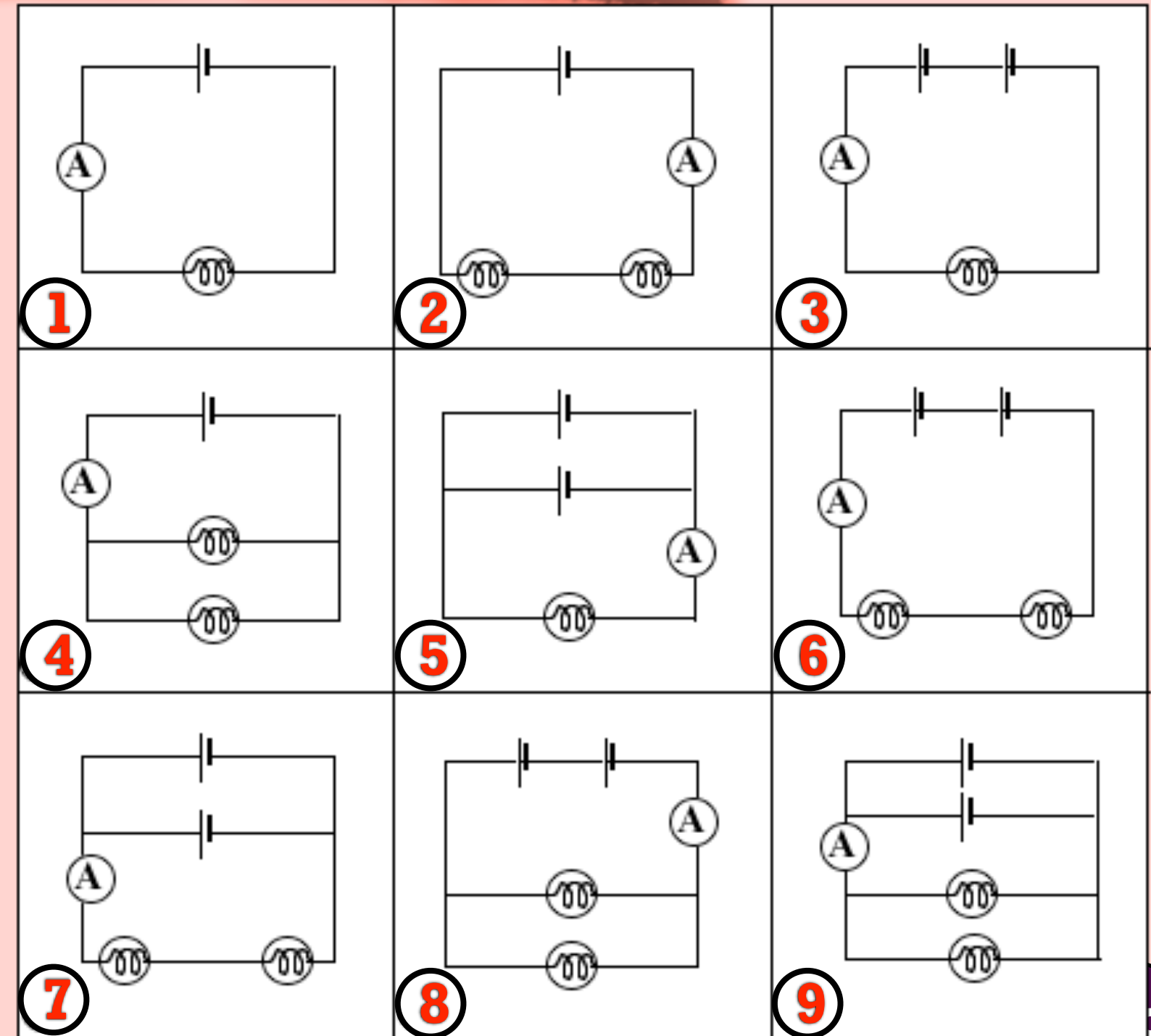
(1) Choose the box(es) where the bulbs have the same brightness as the bulb in box 1



Goals, Assessment and Learning

(1) Choose the box(es) where the bulbs have the same brightness as the bulb in box 1

(2) Choose the box(es) where the bulbs receive the smallest voltage

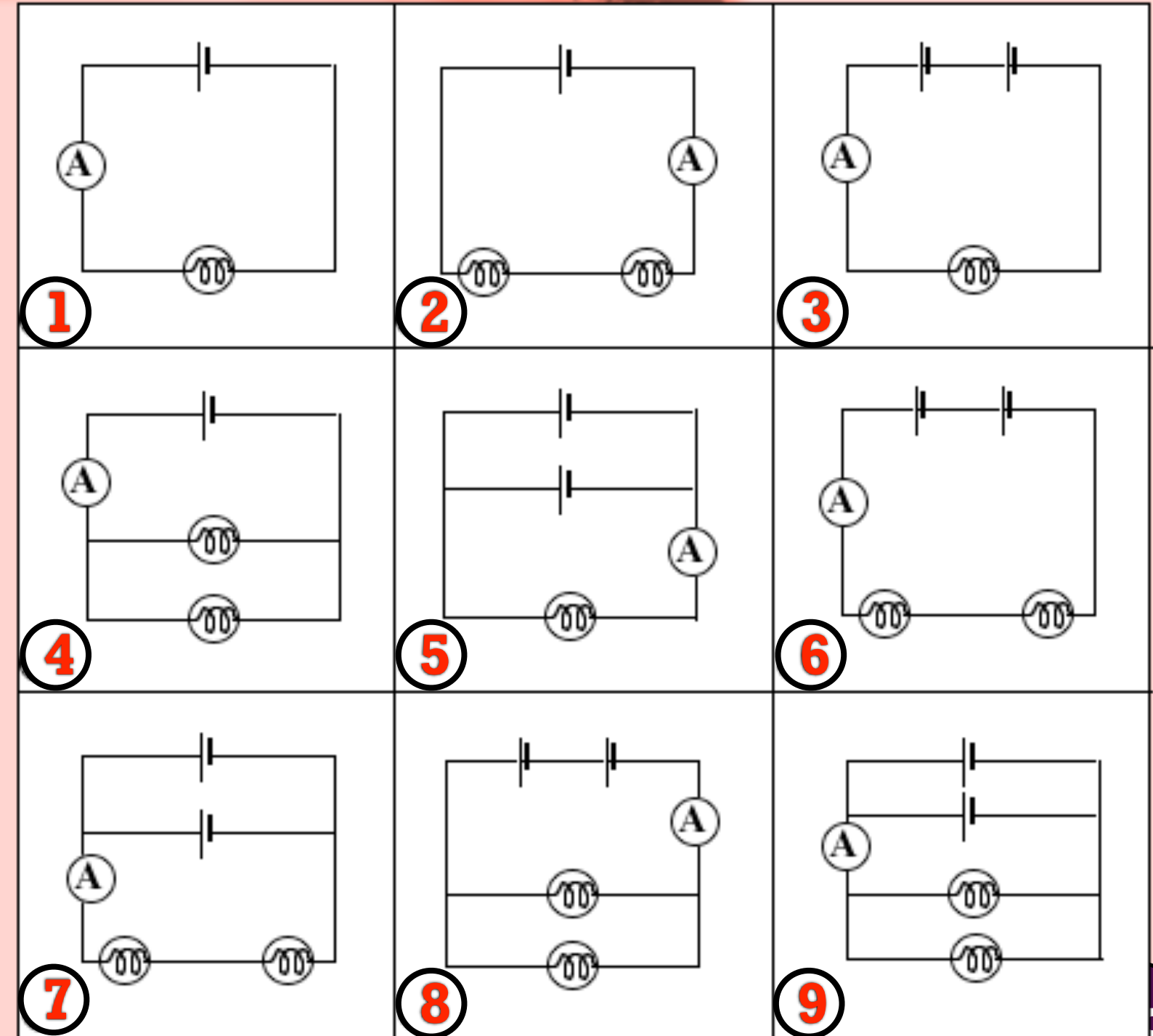


Goals, Assessment and Learning

(1) Choose the box(es) where the bulbs have the same brightness as the bulb in box 1

(2) Choose the box(es) where the bulbs receive the smallest voltage

(3) Choose the box(es) where the ammeter shows the largest value



Goals, Assessment and Learning

**Structural
Communication
Grids**

Goals, Assessment and Learning

**Huge Potential
in
Diagnostic Assessment**

**Structural
Communication
Grids**

Goals, Assessment and Learning

Huge Potential *in* Diagnostic Assessment

**Structural
Communication
Grids**

(a) Guessing discouraged

Goals, Assessment and Learning

Huge Potential *in* Diagnostic Assessment

**Structural
Communication
Grids**

- (a) Guessing discouraged**
- (b) Text, diagrams, pictures, numbers....can all be used**

Goals, Assessment and Learning

Huge Potential *in* Diagnostic Assessment

**Structural
Communication
Grids**

- (a) Guessing discouraged**
- (b) Text, diagrams, pictures, numbers....can all be used**
- (b) Patterns of right answers reveal areas of misunderstandings**

Goals, Assessment and Learning

Huge Potential *in* Diagnostic Assessment

**Structural
Communication
Grids**

- (a) Guessing discouraged**
- (b) Text, diagrams, pictures, numbers....can all be used**
- (b) Patterns of right answers reveal areas of misunderstandings**
- (c) Patterns of wrong answers reveal areas of misunderstandings**

Goals, Assessment and Learning



**Mark for each
question**

**Structural
Communication
Grids**

Correct answers selected

**Total number of
correct answers**



Wrong answers selected

**Total number of
wrong answers**

Goals, Assessment and Learning



**Mark for each
question**

Correct answers selected

**Total number of
correct answers**



Wrong answers selected

**Total number of
wrong answers**

Goals, Assessment and Learning

Goals, Assessment and Learning

Warning



**Learners find these
questions very tiring**

**Use 6 -9 boxes
(ages 12-18)**

Goals, Assessment and Learning



Warning



**Learners find these
questions very tiring**

**Use 6 -9 boxes
(ages 12-18)**



Goals, Assessment and Learning

Goals, Assessment and Learning



Multiple Choice Questions



Goals, Assessment and Learning

Goals, Assessment and Learning

**What
is
known**

Goals, Assessment and Learning

**Very difficult to set
good questions**

**What
is
known**

Goals, Assessment and Learning

**Very difficult to set
good questions**

**What
is
known**

**Most measure
recall-recognition**

Goals, Assessment and Learning

**Very difficult to set
good questions**

Limited in scope

**What
is
known**

**Most measure
recall-recognition**

Goals, Assessment and Learning

**Very difficult to set
good questions**

Limited in scope

**Most measure
recall-recognition**

**What
is
known**

Highly unreliable

Goals, Assessment and Learning

**Very difficult to set
good questions**

Limited in scope

**Most measure
recall-recognition**

**What
is
known**

Highly unreliable

**Performance
training possible**

Goals, Assessment and Learning

Goals, Assessment and Learning

**Skilled
guessing**

Goals, Assessment and Learning

**Skilled
guessing**

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Multiple Choice Questions



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Multiple Choice Questions



Some Better Ways Forward

1975

Goals, Assessment and Learning

1975

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**Partial
Knowledge
Multiple
Choice**

1975

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**Partial
Knowledge
Multiple
Choice**

Four answers offered.

1975

Goals, Assessment and Learning

**Partial
Knowledge
Multiple
Choice**

Four answers offered.
(B) is the correct answer.

1975

Goals, Assessment and Learning

Partial
Knowledge
Multiple
Choice

Four answers offered.
(B) is the correct answer.

The candidate is asked to mark with a tick (✓) the correct answer and put a cross (X) against the **TWO** answers which are *definitely* wrong.

1975

Goals, Assessment and Learning

Partial
Knowledge
Multiple
Choice

Four answers offered.
(B) is the correct answer.

The candidate is asked to mark with a tick (✓) the correct answer and put a cross (✗) against the **TWO** answers which are *definitely* wrong.

Consider three answers offered by three students:

Goals, Assessment and Learning

**Partial
Knowledge
Multiple
Choice**

Goals, Assessment and Learning

Partial
Knowledge
Multiple
Choice

	<i>Student 1</i>	<i>Student 2</i>	<i>Student 3</i>
A	✗	✗	
B	✓		✗
C	✗	✓	✗
D		✗	✓

Goals, Assessment and Learning

Partial
Knowledge
Multiple
Choice

	<i>Student 1</i>	<i>Student 2</i>	<i>Student 3</i>
A	✗	✗	
B	✓		✗
C	✗	✓	✗
D		✗	✓

Goals, Assessment and Learning

Partial
Knowledge
Multiple
Choice

	<i>Student 1</i>	<i>Student 2</i>	<i>Student 3</i>
A	✗	✗	
B	✓		✗
C	✗	✓	✗
D		✗	✓

Full
marks

Goals, Assessment and Learning

Partial
Knowledge
Multiple
Choice

	<i>Student 1</i>	<i>Student 2</i>	<i>Student 3</i>
A	✗	✗	
B	✓		✗
C	✗	✓	✗
D		✗	✓

Full marks

Half marks

Goals, Assessment and Learning

Partial
Knowledge
Multiple
Choice

	<i>Student 1</i>	<i>Student 2</i>	<i>Student 3</i>
A	✗	✗	
B	✓		✗
C	✗	✓	✗
D		✗	✓

Full marks Half marks No marks

Goals, Assessment and Learning

Goals, Assessment and Learning

Which of the following elements is likely to react with cold water

Goals, Assessment and Learning

Which of the following elements is likely to react with cold water

- ☐ **Hydrogen**
- ☐ **Strontium**
- ☐ **Silver**
- ☐ **Iodine**

Goals, Assessment and Learning

Which of the following elements is likely to react with cold water

- ☐ **Hydrogen**
- ☐ **Strontium**
- ☐ **Silver**
- ☐ **Iodine**

In one sentence, explain why you made your choice

Goals, Assessment and Learning

**A New
Idea**

Goals, Assessment and Learning

**A New
Idea**

Goals, Assessment and Learning



**Allocate a topic to each student
Each creates ONE multiple choice question**



**A New
Idea**

Goals, Assessment and Learning



**Allocate a topic to each student
Each creates ONE multiple choice question**



**Their distractors give insights into how they
understand the topic or idea**

Goals, Assessment and Learning

Goals, Assessment and Learning

Using Essays to Measure Skills

Goals, Assessment and Learning

Using Essays to Measure Skills

The recent development of the financial sector in the Kingdom of Bahrain

Goals, Assessment and Learning

Using Essays to Measure Skills

**The recent development of the financial
sector in the Kingdom of Bahrain**

**Natural resources and the development of the
Kingdom of Bahrain**

Goals, Assessment and Learning

Using Essays to Measure Skills

The recent development of the financial sector in the Kingdom of Bahrain

Natural resources and the development of the Kingdom of Bahrain

The significance of the poetry of Ali al-Sharqawi in the culture of the Kingdom of Bahrain

Goals, Assessment and Learning

Goals, Assessment and Learning

Award up to five marks for

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
- **Coherence, sequence and flow**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
- **Coherence, sequence and flow**
- **Relevant choice of content**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
- **Coherence, sequence and flow**
- **Relevant choice of content**
- **Appropriate coverage of ideas**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
- **Coherence, sequence and flow**
- **Relevant choice of content**
- **Appropriate coverage of ideas**
- **Clarity**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
- **Coherence, sequence and flow**
- **Relevant choice of content**
- **Appropriate coverage of ideas**
- **Clarity**
- **Robust argument**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
- **Coherence, sequence and flow**
- **Relevant choice of content**
- **Appropriate coverage of ideas**
- **Clarity**
- **Robust argument**
- **Evidence of outside reading**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
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- **Clarity**
- **Robust argument**
- **Evidence of outside reading**
- **Evidence of critical thought**

Goals, Assessment and Learning

Award up to five marks for

- **A good introduction and clear conclusion**
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- **Evidence of outside reading**
- **Evidence of critical thought**

5 near perfect performance
4 extremely good
3 covers criteria adequately
2 some major omissions
1 completely inadequate
0 no fulfilment of criteria

Goals, Assessment and Learning

Award up to five marks for

**Credit
for Skills**

- **A good introduction and clear conclusion**
- **Coherence, sequence and flow**
- **Relevant choice of content**
- **Appropriate coverage of ideas**
- **Clarity**
- **Robust argument**
- **Evidence of outside reading**
- **Evidence of critical thought**

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4 extremely good
3 covers criteria adequately
2 some major omissions
1 completely inadequate
0 no fulfilment of criteria

Goals, Assessment and Learning

Goals, Assessment and Learning

**Open Book
Examinations**

Goals, Assessment and Learning

**Open Book
Examinations**

Give all the information

Goals, Assessment and Learning

**Open Book
Examinations**

Give all the information

Questions test:

Goals, Assessment and Learning

**Open Book
Examinations**

Give all the information

Questions test:

- **Ability to interpret what is given**

Goals, Assessment and Learning

**Open Book
Examinations**

Give all the information

Questions test:

- **Ability to interpret what is given**
- **Ability to apply what is given**

Goals, Assessment and Learning

**Open Book
Examinations**

Give all the information

Questions test:

- **Ability to interpret what is given**
- **Ability to apply what is given**
- **Ability to evaluate what is given**

Goals, Assessment and Learning

**Open Book
Examinations**

Goals, Assessment and Learning

**Open Book
Examinations**

Examples

Goals, Assessment and Learning

Open Book
Examinations

Examples

- ☒ Some economic data - draw conclusions

Goals, Assessment and Learning

**Open Book
Examinations**

Examples

- ☒ Some economic data - draw conclusions
- ☒ Balance sheet - interpret the data

Goals, Assessment and Learning

**Open Book
Examinations**

Examples

- ☒ **Some economic data - draw conclusions**
- ☒ **Balance sheet - interpret the data**
- ☒ **Three paragraphs of prose - pick out key points**

Goals, Assessment and Learning

**Open Book
Examinations**

Examples

- ☒ **Some economic data - draw conclusions**
- ☒ **Balance sheet - interpret the data**
- ☒ **Three paragraphs of prose - pick out key points**
- ☒ **Periodic table - summarise trends and their meaning**

Goals, Assessment and Learning

**Open Book
Examinations**

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- ☒ **Computer program - detect flaws**

Goals, Assessment and Learning

**Open Book
Examinations**

Examples

- ☒ **Some economic data - draw conclusions**
- ☒ **Balance sheet - interpret the data**
- ☒ **Three paragraphs of prose - pick out key points**
- ☒ **Periodic table - summarise trends and their meaning**
- ☒ **Computer program - detect flaws**
- ☒ **Geographical map - interpret and predict**

Goals, Assessment and Learning

Goals, Assessment and Learning

**Can we use assessment to
guide future learning ?**

Goals, Assessment and Learning

**Can we use assessment to
guide future learning ?**



Goals, Assessment and Learning

Can we use assessment to guide future learning ?



Diagnosing strengths and weaknesses

Goals, Assessment and Learning

Can we use assessment to guide future learning ?



Always think of the learner

Goals, Assessment and Learning

**The 10
minute
test**

Goals, Assessment and Learning

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

Writing a 3 sentence summary

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

Writing a 3 sentence summary

Groupwork - identify the greatest problem area

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

Writing a 3 sentence summary

Groupwork - identify the greatest problem area

Evaluating set of experimental results

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

Writing a 3 sentence summary

Groupwork - identify the greatest problem area

Evaluating set of experimental results

Class '*talk through*' a procedure

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

Writing a 3 sentence summary

Groupwork - identify the greatest problem area

Evaluating set of experimental results

Class '*talk through*' a procedure

Small set of mathematics problems

**The 10
minute
test**

Goals, Assessment and Learning

Structural communication grids

Writing a 3 sentence summary

Groupwork - identify the greatest problem area

Evaluating set of experimental results

Class '*talk through*' a procedure

Small set of mathematics problems

5 Multiple choice + reasons for choice

**The 10
minute
test**

Goals, Assessment and Learning

**Self-marked
or
Pair-marked**

Structural communication grids

Writing a 3 sentence summary

Groupwork - identify the greatest problem area

Evaluating set of experimental results

Class '*talk through*' a procedure

Small set of mathematics problems

5 Multiple choice + reasons for choice

**The 10
minute
test**

Goals, Assessment and Learning

**The 10
minute
test**

Goals, Assessment and Learning



The key to success



Quality feedback

**The 10
minute
test**

Goals, Assessment and Learning

**Time is the
problem**



The key to success



Quality feedback

Goals, Assessment and Learning

**Bringing it
together**



Goals, Assessment and Learning

Goals, Assessment and Learning

In assessment, we gather, interpret and use evidence to make judgements about the achievements of learners.

Goals, Assessment and Learning

In assessment, we gather, interpret and use evidence to make judgements about the achievements of learners.

Never an easy task

Goals, Assessment and Learning

In assessment, we gather, interpret and use evidence to make judgements about the achievements of learners.

Never an easy task

Open to uncertainty

Goals, Assessment and Learning

In assessment, we gather, interpret and use evidence to make judgements about the achievements of learners.

Never an easy task

Open to misuse

Open to uncertainty

Goals, Assessment and Learning

Goals, Assessment and Learning

Think of assessing skills, not recall

Goals, Assessment and Learning

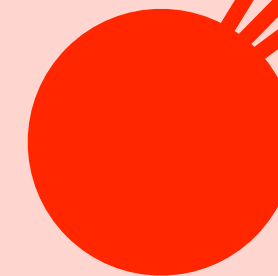
Think of assessing skills, not recall

All data as %, N = 795	SA	A	N	D	SD
In exams, I like questions which give me the scope to go beyond what is taught and show my ability to think	23	24	26	11	16

Goals, Assessment and Learning

Think of assessing skills, not recall

All data as %, N = 795	SA	A	N	D	SD
In exams, I like questions which give me the scope to go beyond what is taught and show my ability to think	23	24	26	11	16



Goals, Assessment and Learning

Goals, Assessment and Learning

Assessment and Testing

Goals, Assessment and Learning

Assessment and Testing

**Assessment can be done in ways
which do not involve
formal written examinations**

Goals, Assessment and Learning



Assessment and Testing

**Assessment can be done in ways
which do not involve
formal written examinations**

Goals, Assessment and Learning



Assessment and Testing

**Assessment can be done in ways
which do not involve
formal written examinations**



Goals, Assessment and Learning



Assessment and Testing

**Assessment can be done in ways
which do not involve
formal written examinations**



Goals, Assessment and Learning



Assessment and Testing

**Assessment can be done in ways
which do not involve
formal written examinations**



Goals, Assessment and Learning

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Assessment is Difficult



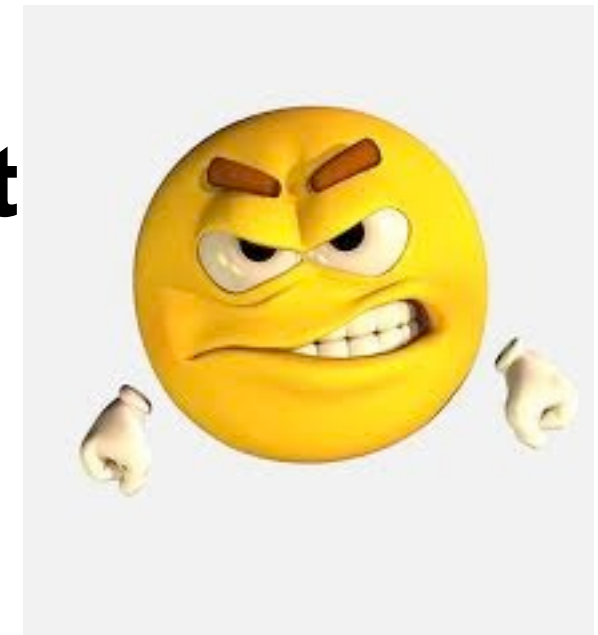
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Assessment is Difficult



Good Assessment is Very Difficult



Goals, Assessment and Learning

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Take Assessment Forward

Goals, Assessment and Learning

Take Assessment Forward

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