Spotter Cards Resource

Ideas for deepening understanding of disciplinary and professional thinking and learning processes

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Welcome to the 'Spotter Cards' Resource

The term 'spotter' comes from the idea of 'spotting the thinking processes' when learning in a disciplinary or professional context. The word 'cards' was from the representation of each process as an illustration together with a word (verb) so that they could be used in different ways as a pack of cards.

The cards are designed to facilitate staff and students' exploration of ways of thinking and learning in disciplines and professions. They represent processes that experts and professionals may use in their work and in their ongoing learning to develop expertise in a particular area. Each learning process will be used differently depending on the discipline or profession. For instance, one card is 'identifying patterns' and the patterns identified in data or behaviour, for example, will depend on how this is undertaken in a specialist context. What counts as evidence and how it is interpreted, what is noticed and how it is communicated is context dependent and students need to learn to look through a disciplinary lens and also to recognise the lens itself.

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For students, learning to think in a particular disciplinary or professional way is essential for their learning and development (Donald 2002). Identifying aspects of thinking is central to teaching approaches such as De-coding the Disciplines (Miller-Young & Boman, 2017). Without a focus on learning processes, as well as content and products, students may fail to identify the ways of thinking they will need if they are to learn and develop in their discipline or profession. Understanding one's own disciplinary or professional ways of thinking is also important in multi-disciplinary contexts, where an awareness of the specific and partial ways one views an issue enables clarity about one's own contribution, and an appreciation of the different approach of others.

These cards can be a useful addition to material designed to raise awareness and understanding of different forms of thinking. Curricula may focus on content and the learning process can be implicit, with students expected to infer how the content is thought about. Staff members may become less aware of their own expert thinking processes once these have been embedded in their normal way of acting (Eraut, 2000 and Pace, 2009). The cards can act as a stimulus to surface this knowledge and enable its exploration with students.

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Activities with the cards can raise awareness of the forms of thinking used in a particular discipline or profession or can be used to probe understanding more deeply. A range of suggestions for using the cards for different purposes is contained in this booklet. The cards themselves are at the end of the resource. Blank cards can be created so that additional processes can be identified and depicted by individuals and groups.

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References

Donald, J. (2002) *Learning to Think: Disciplinary Perspectives.* San Francisco: Jossey-Bass.

Eraut, M. (2000). Non-formal learning and tacit knowledge in professional work. *The British Journal of Educational Psychology.* 70: 1, 113-36.

Miller-Young, J. & Boman, J. (2017) Using the Decoding the Disciplines Framework for Learning across the Disciplines. *New Directions in Teaching and Learning* No150, Summer.

Pace, D. (2009) Opening History's "Black Boxes": Decoding the disciplinary unconscious of historians. in Kreber, C (Ed.) *The University and its Disciplines: Teaching and learning within and beyond disciplinary boundaries.* Abingdon: Routledge

When could the cards be used?

University Induction

One place where the cards could be used is during induction for new students. It could be a way of engaging students together to think about one or more of the processes and what they already know about how they are used in different contexts. It is a way of encouraging students to work and think together. Garrison (2017) argues that if students are to engage in online learning, they need to engage with others focusing on academic activities in contexts where they can safely have their thinking challenged and challenge the thinking of others. This is also true in campus-based learning of course and it takes time to create a context where this can happen. While initial social connections based on non-academic activities could start this process, the cards could offer a non-threatening way for students to engage together around an academic task.

Garrison, D.R. (2017) *E-learning in the 21st Century. 3rd Edn.* Abingdon: Routledge

Induction to a new level of study

The cards could be used to review what students already know about ways of thinking in their discipline/profession and to identify how and where this knowledge will be deepened in the next phase of study.

Placements/fieldwork

In preparing for placements students need to consider how they will identify the thinking processes being used by professionals who may not explicitly explain these. In both placement and fieldwork contexts, students will need to be clear about the processes they will use to learn so that they are less dependent on mentors and others to guide them. The cards could be a way of exploring these ideas before the practical placement. They could also be used when thinking about employability skills and how to identify and evidence these.

Assessment

Students have reported that they have found the cards useful when constructing assignments and checking that all the necessary ways of thinking, for example analysis and synthesis, are being used. Staff and students together can discuss assignment criteria using the cards. New cards can be created for criteria not represented in the current set. One colleague used the cards to engage students in identifying thinking processes used by fellow students during their presentations and giving feedback on their use. Members of staff could also use them to identify the disciplinary processes that they expect students to use in their assessed work and clarify where these have been exemplified during the course.

Interprofessional contexts

According to colleagues who have used the cards, they can be particularly useful in contexts where different disciplines are looking at the same problem. They can help to make the different ways of thinking explicit so that these can be shared and understood. This can limit misconceptions and misunderstanding and lead to more effective collaborative problem solving.

Programme design and review

Colleagues have used the cards in looking at their programmes and find that they can help to disrupt more usual ways of working, enable new ways of seeing a programme, and retain a focus on process.

How could the cards be used?

Activities using the whole set or a subset of cards

Using the set of cards, or a chosen subset, can enable an overview of processes of thinking and learning in the relevant discipline or professional context.

In the following pages there are ideas for a range of possible activities for individuals and groups using:
- all the cards
- a subset of cards
- a selected card
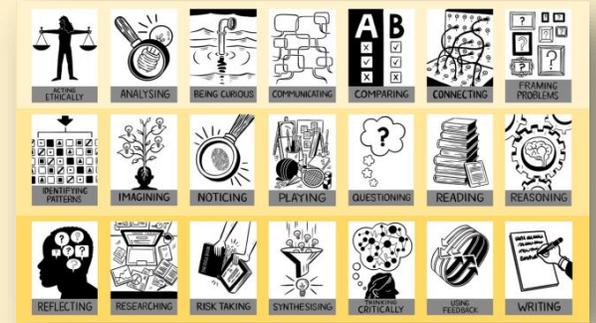
Sorting activities

Sort the cards into those we use in our discipline and those we don't (justify and explain).
Idenitify those I am confident in using and those I'm less sure about. Share findings in a group and prioritise those that need explaining and exemplifying.
Make a plan for developing those you are less confident in using and how you can support others with those that you see as your strengths.

Which processes used in your discipline are missing in this pack? Identify and explain.
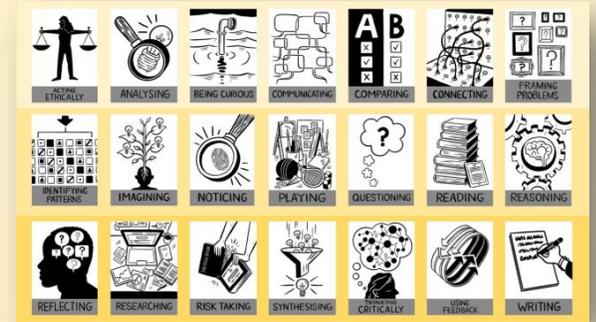
Making connections

Place the cards on a page and draw lines between those processes that connect.

Explain the connections with examples.

Are any of the processes used in sequence?
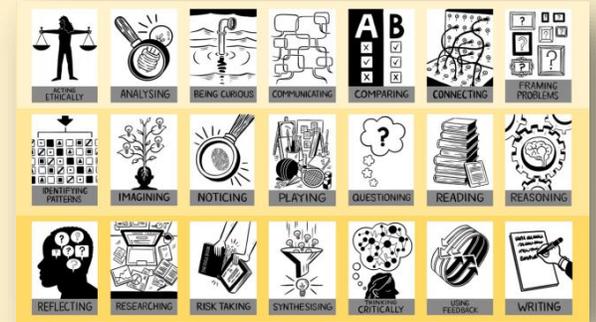
Identifying processes

Identify those processes that are needed for an assignment and discuss how they would be used.

In a formative assignment workshop check that you and peers are evidencing the use of these processes in your work.
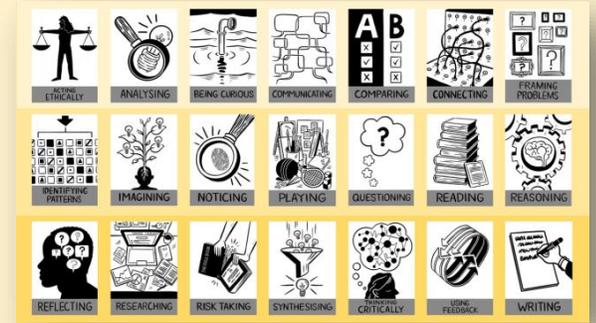
Selecting processes

Select those processes that need to be shown in an oral/visual presentation.
The students watching the presentation identify when they are used.
Presenters and members of the audience discuss after the presentation how the thinking processes were demonstrated.
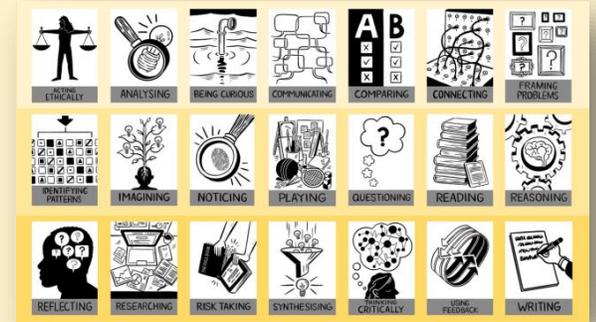
Identifying uses in problem solving

Study an account of a problem-solving activity, pick out which processes have been used and how they are evidenced.
Can you use the cards to support your own problem solving?
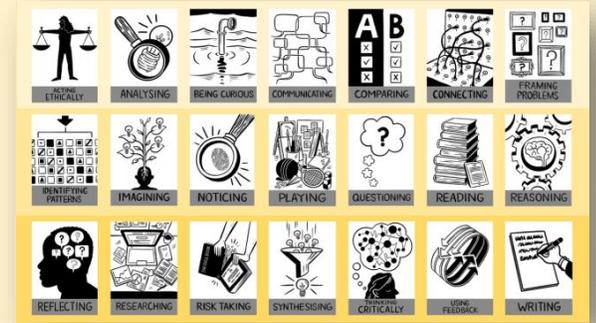
Identifying uses in practice

Observe an expert undertaking a disciplinary/professional activity and use the cards to identify which processes s/he is using.

Consider how you can observe and document the use of these processes during a placement.
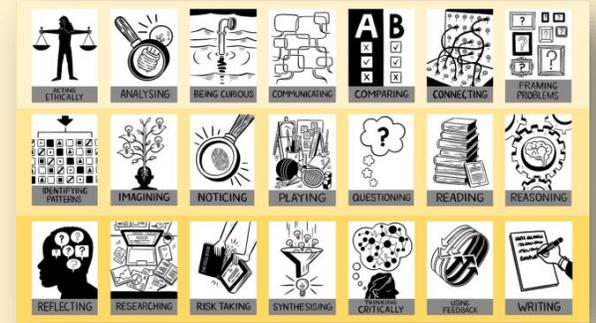
Reflecting on practice

Use the cards to reflect on your own practice.
How can you evidence your use of these processes in your own practice?
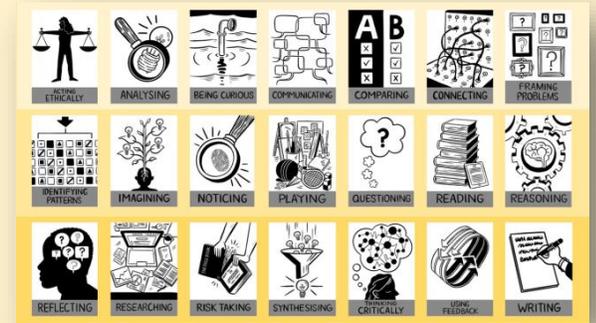
Identifying elements in a process

Pick a card and identify all the elements that make up this process.
Are these elements used in a sequence?
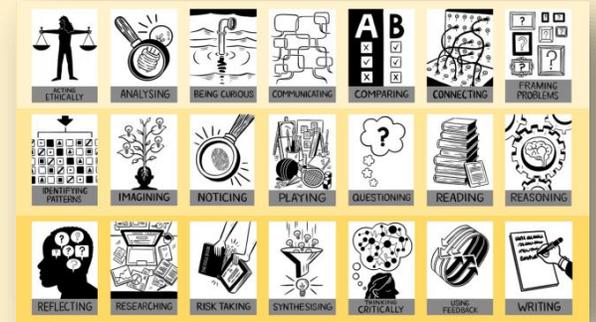
Using a process in a disciplinary/professional context

With a chosen card identify how this process is used in your discipline/profession.
Develop a worked example to show how this is done so that a non-specialist can understand it.
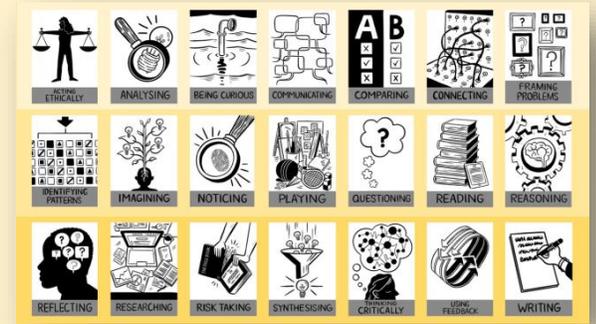
Developing a process

Choose a card that shows a process that you find challenging.

Why is it challenging?

How can you use it more effectively?

Write guidelines for using this process for students new to the discipline/profession.
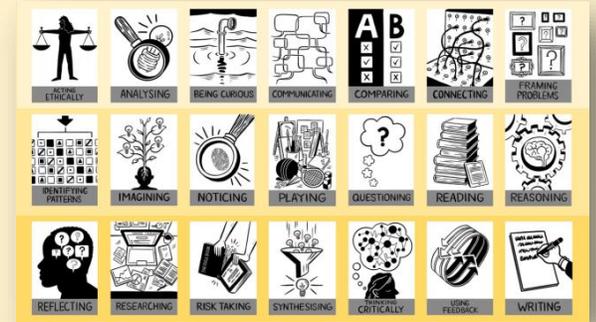
Looking for processes in use

Identify a card that shows a process that you see as important.
Look out for this in your university and independent learning sessions and log when you see it being used.
Then identify when you are using this process.
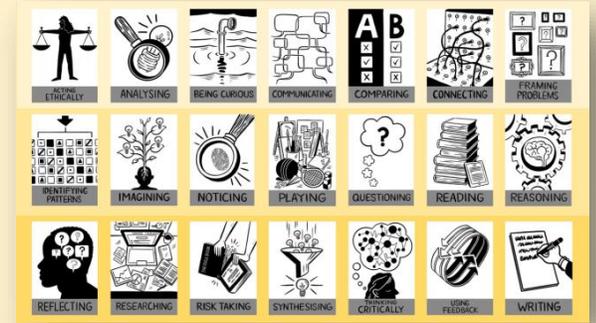
Using processes in texts

Choose a card and identify the ways in which the process is shown in a piece of disciplinary text.
Create your own disciplinary text focusing on using this process.
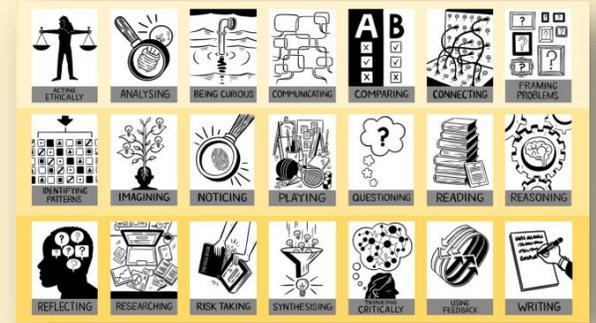
Mapping the use of processes

Select a card and map where and when you have been developing this process during your course.
Consider how effectively you use this process.
Identify how to develop its use in a range of contexts on your course, outside your course and in work placements.
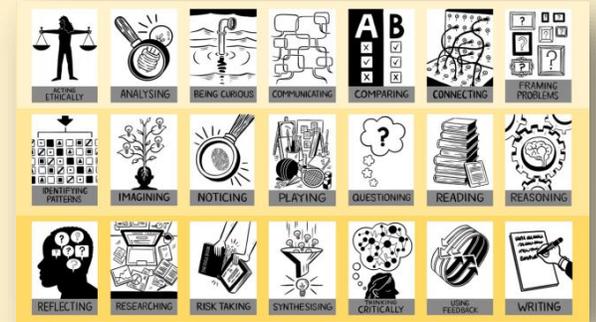
Asking questions about each of the processes

In the following pages there are questions to provoke thinking about each of the processes depicted.
You can work alone or with others to:

- Find answers to the questions
- Create your own questions

Acting ethically

What does it mean to act ethically?
What is the basis for ethical action?
Can you identify ethical dilemmas and how you would approach them?

Analysing

What do you analyse?
What steps do you go through when analysing?

ANALYSING

Being curious

What are you curious about?
Why is curiosity essential?
How can you develop and focus your curiosity?
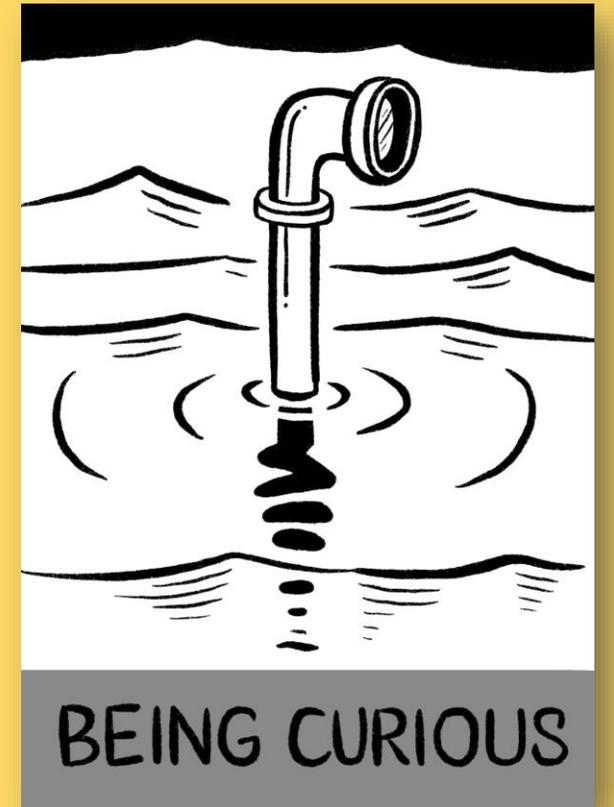
Communicating

How many different ways of communicating do you need to use?
Can you identify effective examples of each?
How can you develop the range and quality of your communication skills?
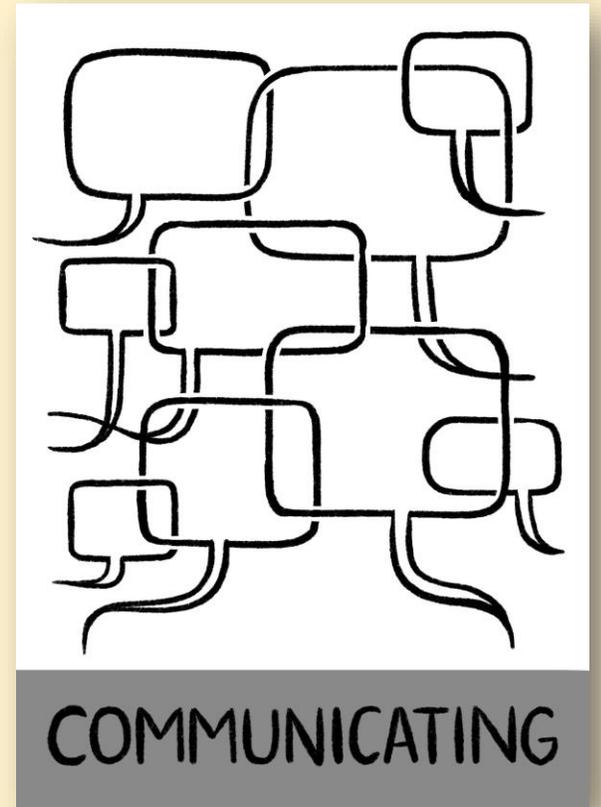
Comparing

What do you need to compare?
Why and how do you do this?
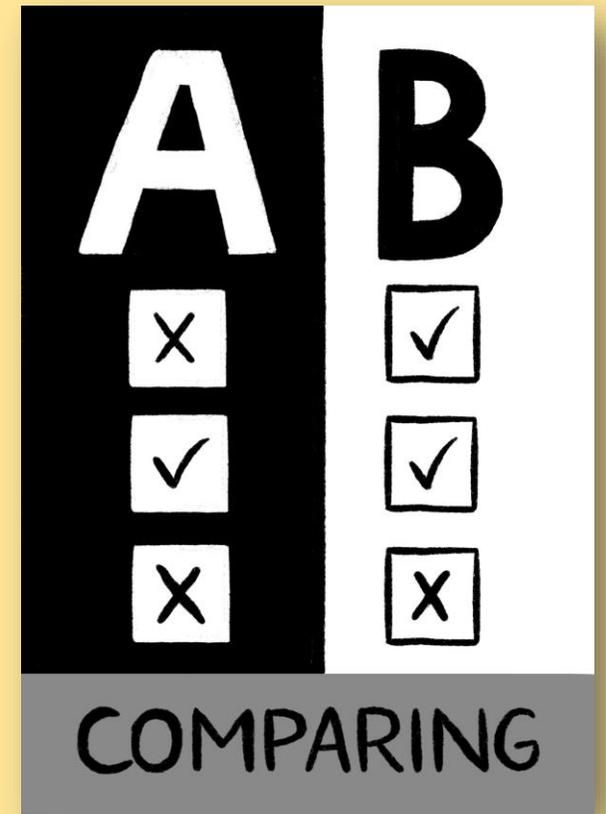
Connecting

How do you make connections?
What do you need to connect?
Can you find some examples?

CONNECTING
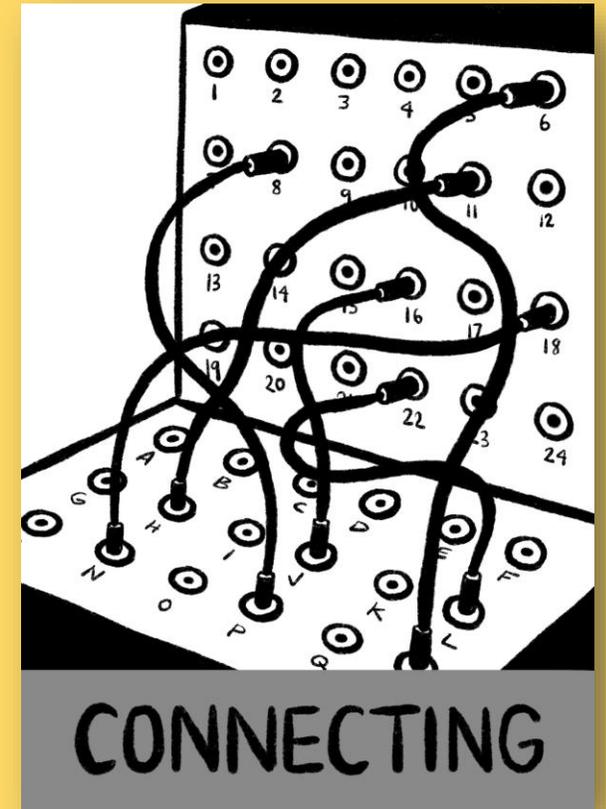
Framing problems

Which lenses/perspectives do you use to frame a problem?
How do you sharpen these?
How do you identify their limitations?
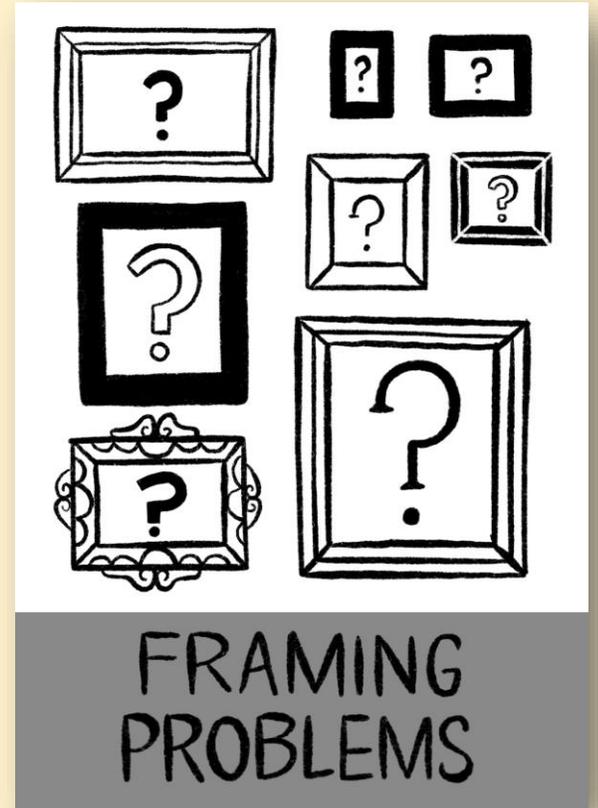
Identifying patterns

Where are you looking for patterns?
Why are patterns important?
What limits your pattern recognition?
What develops your ability to identify patterns?
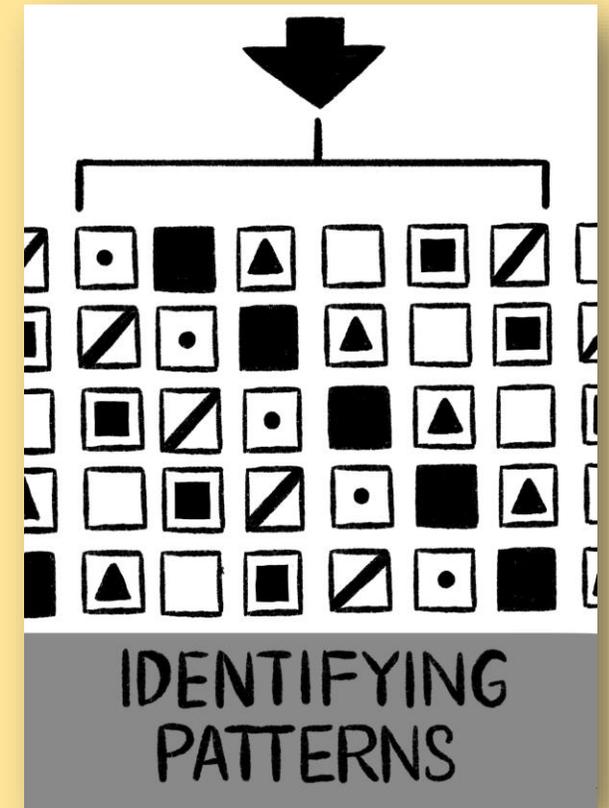
Imagining

What do you need to imagine?
How can you develop your imagination?
How can you then focus this to solve a problem?

Noticing

What do you need to notice?
How do you build your noticing capacity?
What do you do with what you have noticed?

Playing

How do you play?
Do you play with data, ideas, representation, other aspects?
What is the value of play?

Questioning

Why is questioning important?
What sorts of question do you need to ask?
How can you extend your range of questions?

Reading

What types of material do you need to read?
What different reading strategies do you use and why?
How can you develop your reading skills?

REASONING

Reasoning

What is involved in reasoning?
Can you draw a diagram to show how reasoning is undertaken?
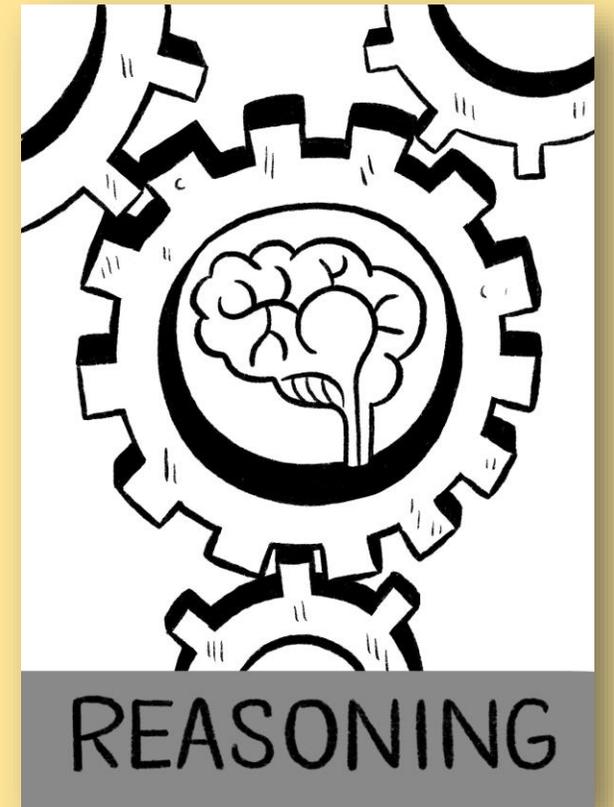
Reflecting

Why is reflection used?
What is involved?
What tools can you use?
How can you identify any assumptions you are making?

Researching

What are the steps involved in your research process?
How can you identify and develop your research skills?

Risk taking

What does risk taking look like?
Why might you use this?
What do you need to consider?

Synthesising

How do you synthesise?
Can you identify the steps in this process?
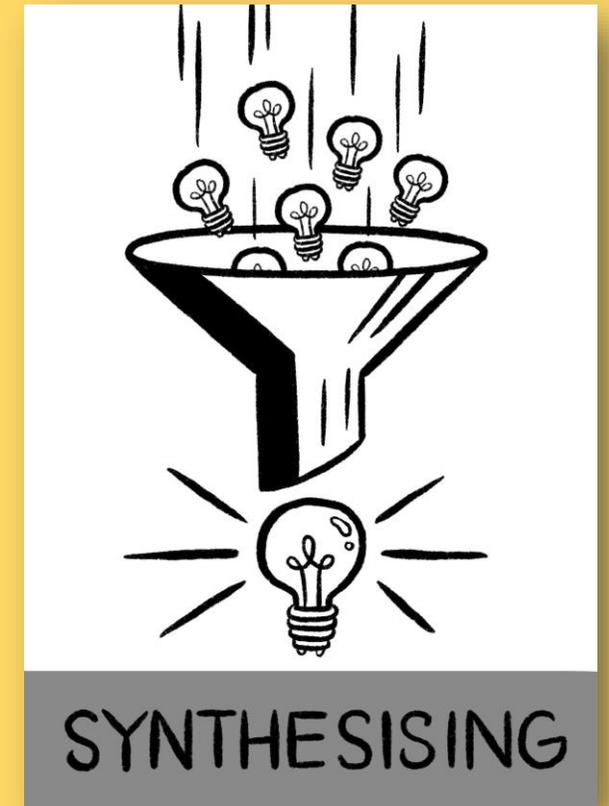
Thinking critically

What does it mean to think critically?
How do you move from thinking about a topic to thinking critically about it?
Can you develop an example?

THINKING CRITICALLY
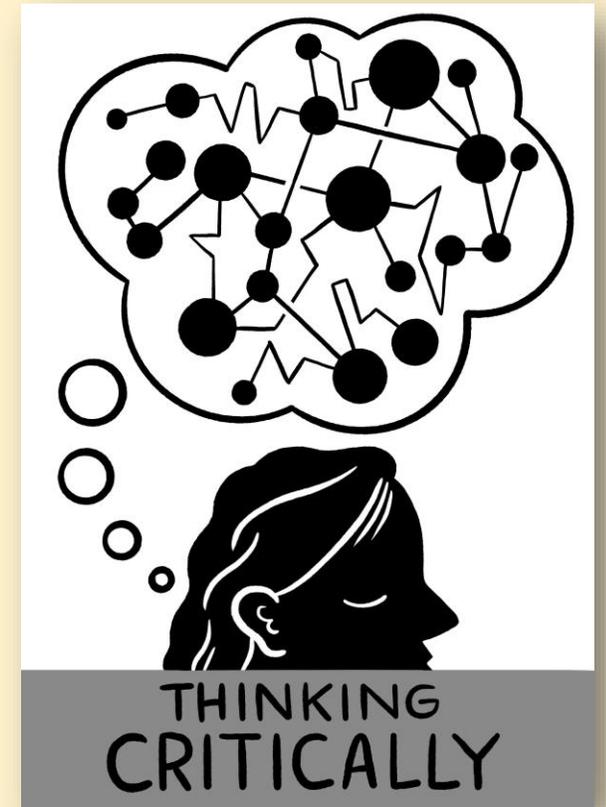
Using feedback

Where and how do you use feedback?
What limits your ability to use feedback and what can you do about this?

Writing

What types of writing do you need to use?
Can you identify key features in different types of writing?
How can you develop your writing skills?
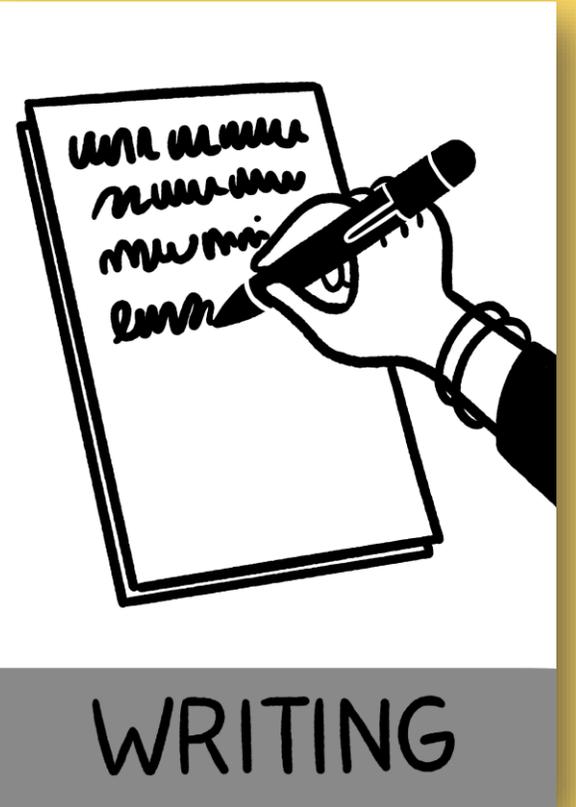
The blank card

What cards would you add to the set?
What key questions would you ask about these processes?
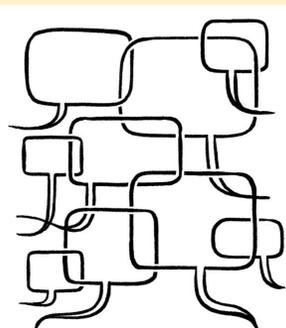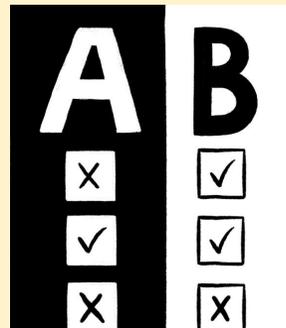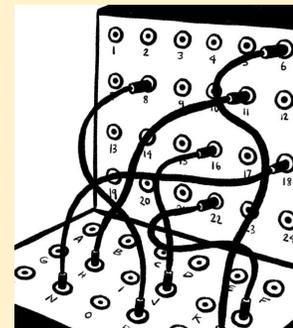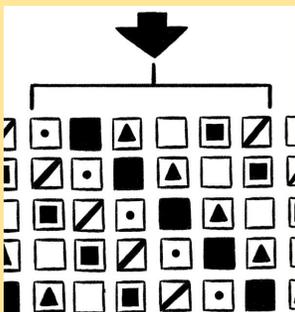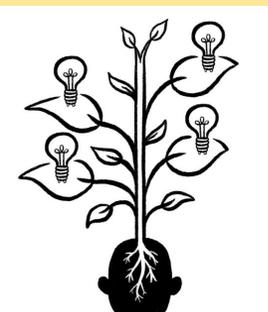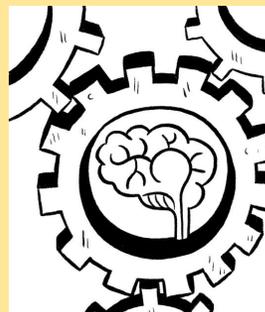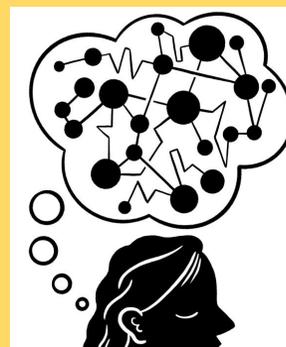
ACTING ETHICALLY	ANALYSING	BEING CURIOUS	COMMUNICATING	COMPARING	CONNECTING	FRAMING PROBLEMS
IDENTIFYING PATTERNS	IMAGINING	NOTICING	PLAYING	QUESTIONING	READING	REASONING
REFLECTING	RESEARCHING	RISK TAKING	SYNTHESISING	THINKING CRITICALLY	USING FEEDBACK	WRITING