



Professional Development
Service for Teachers

An tSeirbhís um Fhorbairt
Ghairmiúil do Mhúinteoirí



Leaving Certificate Agricultural Science National Workshop 6



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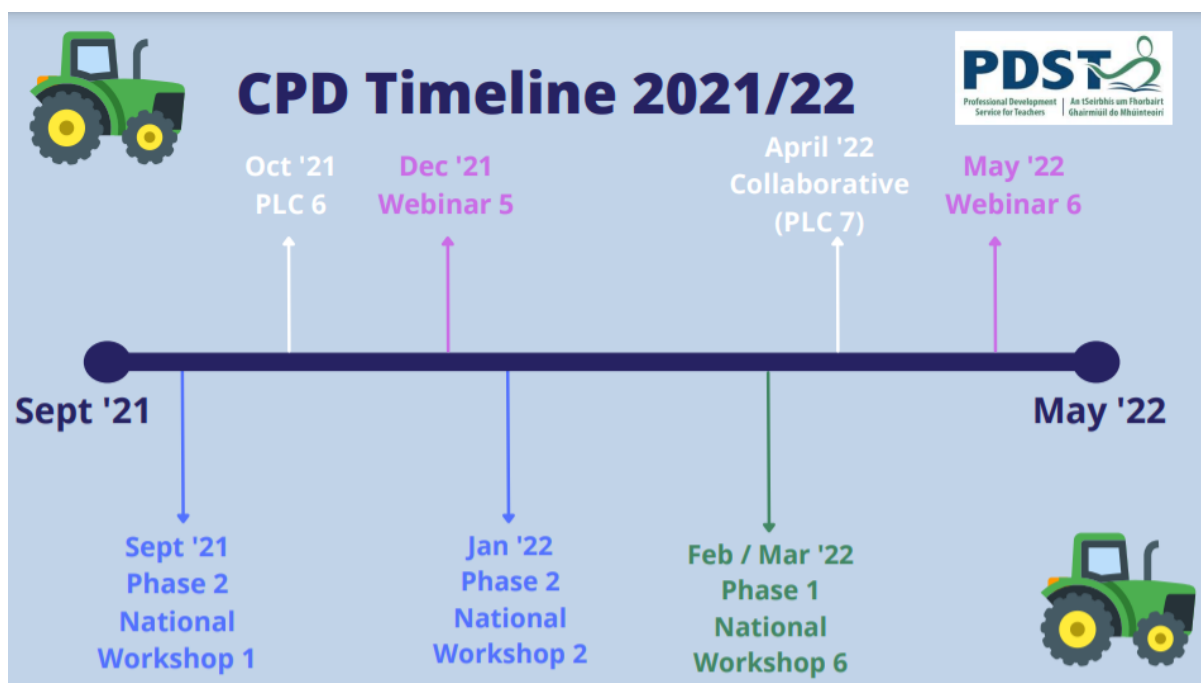
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Key messages

- Leaving Certificate Agricultural Science supports the use of a wide range of teaching and learning approaches which emphasise the use of scientific practice and concepts that arise from the basic investigative nature of the subject.
- Through engagement with Leaving Certificate Agricultural Science the students will acquire knowledge, skills, attitudes and values that allow them to make informed decisions on scientific issues, including those with moral and ethical dimensions.
- Teachers view collaboration as a means to improve student learning and to enhance their own professional development.

Our CPD Journey



Activity 1: Jigsaw activity- Key take home messages

Station 1: Scientific practices and Coursework

Station 2: Teaching and learning

Station 3: Written assessment

Expert group notes:

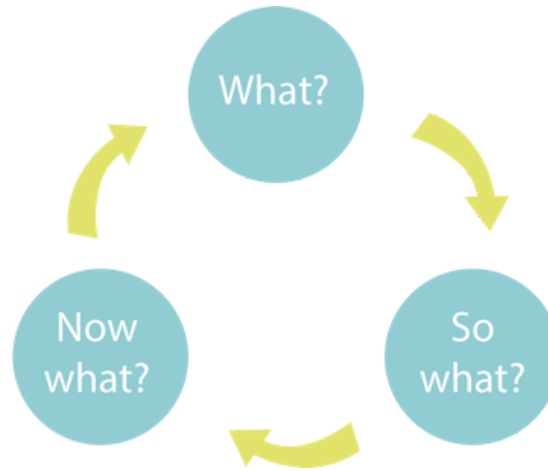
Feedback from other groups

Group 1:

Group 2:

Group 3:

Rolfe Model of Reflection



Descriptive Level of Reflection	Theory and Knowledge Building	Action Oriented (Reflexive) Reflection
<p style="text-align: center;">What?</p> <p>What is the problem/ difficulty/ reason for being stuck/ reason for feeling bad/ reason we don't get on/etc...?</p> <p>What was my role in the situation?</p> <p>What was I trying to achieve?</p> <p>What actions did I take?</p> <p>What was the response of others?</p> <p>What were the consequences?</p> <ul style="list-style-type: none"> ❖ For the client? ❖ For myself? ❖ For others? <p>What feelings did it evoke?</p> <ul style="list-style-type: none"> ❖ In the client? ❖ In myself? ❖ In others? <p>What was good/bad about the experience?</p>	<p style="text-align: center;">So What?</p> <p>So what does this tell me/ teach me/ imply/ mean about me/ my client/ our relationship/ my client's care/ the model of care I am using/ my attitudes/ my client's attitudes/ etc...?</p> <p>So what was going through my mind as I acted?</p> <p>So what did I base my actions on?</p> <p>So what other knowledge can I bring to this situation?</p> <ul style="list-style-type: none"> ❖ Social policy ❖ Legislation ❖ SW Theory ❖ Personal <p>So what could / should I have done to make it better?</p> <p>So what is my new understanding of the situation?</p> <p>So what broader issues arise from the situation?</p>	<p style="text-align: center;">Now What?</p> <p>Now what do I need to do in order to make things better/ stop being stuck/ improve my clients care/ resolve the situation/ feel better/ get on better/ etc...?</p> <p>Now what broader issues need to be considered if this action is to be successful?</p> <p>Now what what might be the consequences of this action?</p> <p>Now what what planning is required to activate the new direction?</p>

Rolfe Model Template for Reflection

What?	
So what?	
Now what?	

Learning log - Reflecting on active learning in my classroom

Student centred learning

Developing key skills

Assessment

Student voice

Collaboration & planning

Enhancing Key Skills in the Agricultural Science Classroom through Debating

Formal Debates

The purpose of debating and developing arguments is to persuade an audience to accept a particular point of view. Debates provide pupils with practice in giving and justifying opinions. Pupils will be required to research topics to provide relevant information to support their point of view. Debates can be used for exploring issues and different points of view such as topics from literature being studied in class or local concerns such as pollution, phone masts and current affairs

Structure	Low Level	Moderate Level	High Level
Introduction			
State position	<ul style="list-style-type: none"> ● I think/I don't think ● Yes/No ● I like/I don't like ● I agree/disagree ● My favourite 	<ul style="list-style-type: none"> ● I have mixed feelings ● I prefer ● I strongly agree/disagree ● In my opinion ● I believe ● I feel 	<ul style="list-style-type: none"> ● I strongly/thoroughly/firmly believe ● I agree/disagree that ● Firstly, secondly, next ● I would like to start off by saying... ● I propose the following.... ● The problem with _____ is.... ● To begin ● In my opinion....
Provide supporting evidence	<ul style="list-style-type: none"> ● Because 	<ul style="list-style-type: none"> ● For instance ● Unless 	<ul style="list-style-type: none"> ● It is believed/widely believed that ● It has been found/discovered/proven ● On one hand/other hand ● Consider the following ● To further illustrate my point ● To reinforce my point ● Furthermore ● In fact ● As with ● Likewise ● Owing to ● Equally ● Significantly ● Indeed ● In particular ● For instance ● An example of this can be found... ● In other words... ● That is to say...

			<ul style="list-style-type: none"> • What is important to remember... • I'd like to emphasise.... • I like to stress the importance of... • I would like to highlight.... • Here I'd like to refer to.... • As you may well know.... • As you are probably already aware.....
Present alternative position		<ul style="list-style-type: none"> • Can be found..... • For example • However/although • Except 	<ul style="list-style-type: none"> • Similarly, conversely • Alternatively • In the case of • Others believe... • According to.... • Although others believe.... • Regardless of.... • Contrary to.... • _____ stated that..... however....
Conclusion	<ul style="list-style-type: none"> • Thank you for listening 	<ul style="list-style-type: none"> • Thank you for your attention • To summarise.... • In conclusion.... 	<ul style="list-style-type: none"> • Therefore • Because of that • Overall • In conclusion • In summary • Consequently • As I have already said earlier... • As previously stated... • I'd like to summarize/sum up • Let me summarise by saying... • So that concludes my • At this stage I would like to run through/over the main points... • So, as we have seen today.... • In conclusion I would like to say that... • My final comments concern... • I would like to finish by reminding everyone that... • I am confident that you will all agree that

Rubric for Arguments and Debates

	1	2	3	4
Text Structure				
<i>Thesis</i>	No clear opening statement presented.	Some attempt to make an opening statement.	Opening statement made.	Opening statement made very clear to audience.
<i>State position</i>	No clear position stated.	Some attempt to state position made.	Position of speaker stated.	Position of speaker explicitly stated with appropriate language used.
<i>Provide supporting evidence</i>	No supporting evidence.	Evidence provided with no support.	Evidence provided with some support.	Series of detailed arguments made with supporting evidence.
<i>Present alternative position</i>	No alternative position presented.	Alternative position presented with no support.	Alternative position presented with some support.	Alternative position explicitly stated with supporting evidence.
<i>Summary argument</i>	No summary argument.	Some attempt made at summary argument.	Summary argument evident but without logical approach.	Explicit and logical summary of points made to conclude.
Language				
<i>Language features associated with the text type</i>	Limited connectives and verbs used with no facts and statistics.	Some connectives and verbs used with limited facts and statistics.	A range of connectives and verbs used with some facts and statistics.	Logical connectives, powerful verbs, facts and statistics used accurately throughout.
<i>Topic specific vocabulary</i>	No technical vocabulary used.	Some attempts to use technical vocabulary and emotive language.	Technical vocabulary used with evidence of research done. Some attempts to use emotive language.	Technical vocabulary, evidence from experts and emotive language used accurately throughout.
Speaking and Listening Skills				
<i>Broad rules that govern social interaction</i>	Poor turn taking. Did not hold the floor.	Some attempt to take turns during argument. Did not successfully hold the floor when given the opportunity.	Took turns appropriately for the most part and managed to hold the floor for a time.	Took turns and interjected appropriately throughout. Held the floor effectively receiving attention when stating position.
<i>Use of voice</i>	Poor projection. Mumbled speech without clear pronunciation. Audience disengaged.	Some projection with most words pronounced accurately.	Good projection and pronunciation. Delivery needs work.	Smooth, effective delivery with clear pronunciation and projection throughout. Audience engaged.
<i>Non-verbal behaviours</i>	Poor eye contact with audience. Stiff presentation with no gesture. Over reliant on speaking cues.	Some attempts at eye contact made. Repetition of gesture throughout. Speaker used some appropriate movements and attempted to use speaking aids appropriately.	Speaker had good posture and attempted to use speaking aids appropriately.	Sustained eye contact with audience, appropriate repair and gesture used throughout. Appeared relaxed, using comfortable movement and posture with appropriate use of speaking aids.

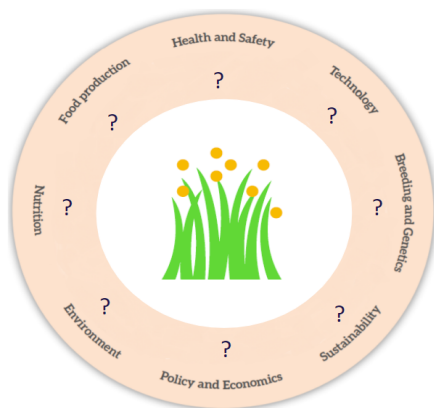
Action Plan

Actions to be taken:	
Steps to be taken:	
Resources you will need (links, people etc):	

Carousel Activities

Station 1	
Station 2	
Station 3	

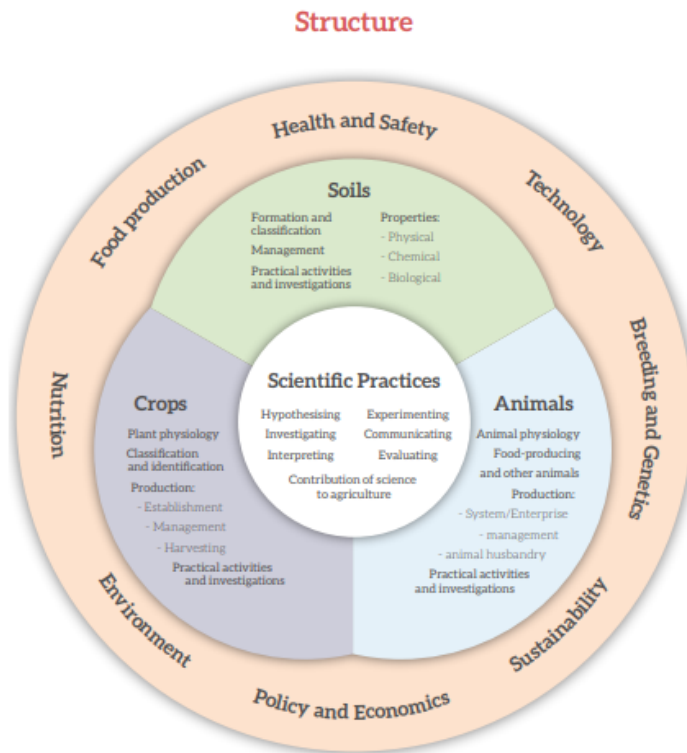
Plant Breeding in Irish Agriculture (Station 3)



What does the future of forage development look like through each of these lenses?

Breeding and Genetics	
Sustainability	
Policy and Economics	
Environment	
Nutrition	
Food Production	
Health and Safety	
Technology	

Candy floss grapes engagement activity



Notes from video:

Connecting to the specification:

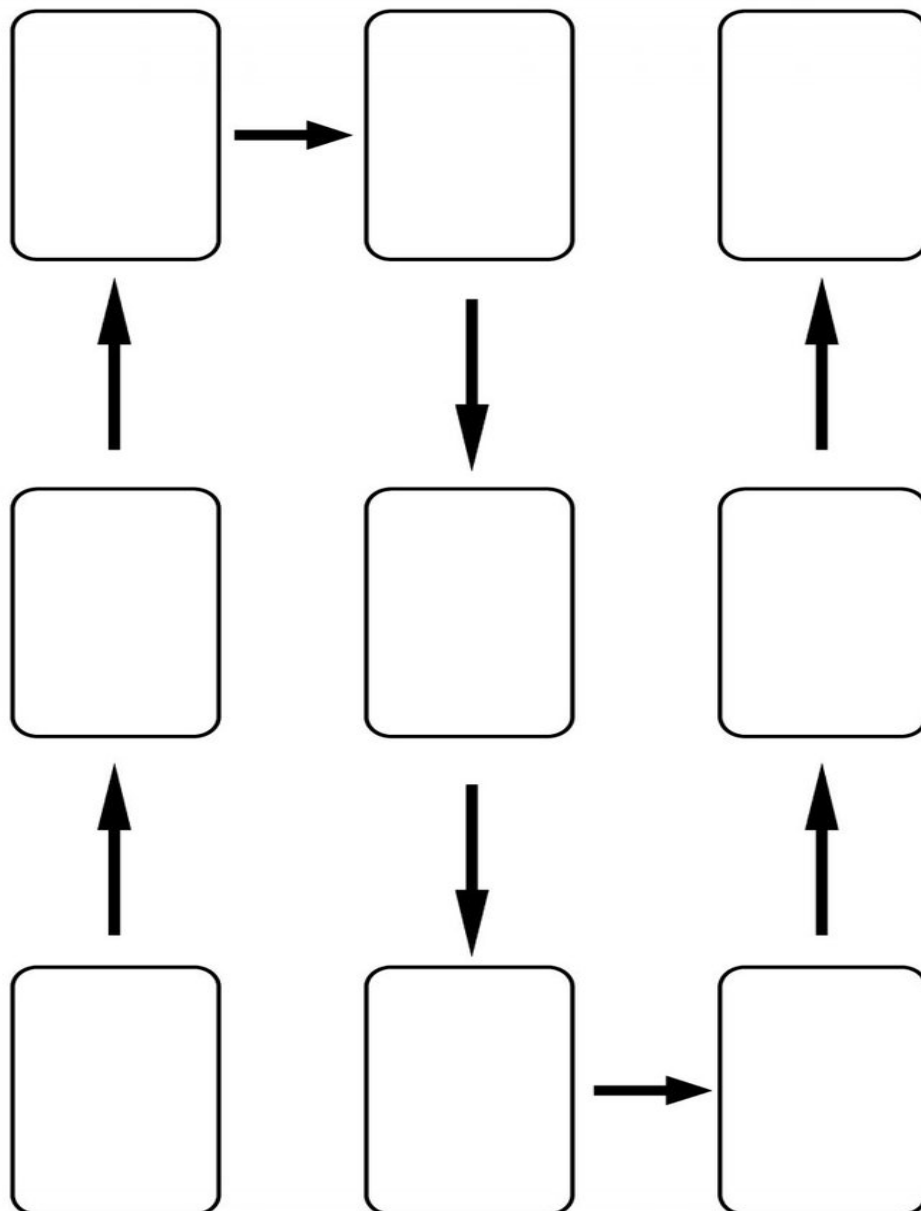
Think - Pair - Share

3.3.2 (K) - Investigate the *complexity* associated with the genetic inheritance of traits by *hybridising* two varieties to determine the *rate of transfer* of the required trait (e.g. petal colour) to the next progeny*

Question	My thoughts/Ideas	My Partners thoughts/ Ideas	Combined Ideas
Investigate			
Complexity			
Hybridising			
Rate of transfer			

Method for 3.3.2(K)

3.3.2 (K) - Investigate the complexity associated with the genetic inheritance of traits by hybridising two varieties to determine the rate of transfer of the required trait (e.g. petal colour) to the next progeny*



Monohybrid Crosses

F1:















F2:

F3:

Alternative Approaches to 3.3.2(k)

<p>How did you previously investigate this SPA with your students?</p>	
<p>What types of plants did you use?</p>	
<p>What complexities did you encounter?</p>	

Additional Information:

Pea Trait	Dominant trait		Recessive trait		Numbers in second generation (F2)
Seeds					
Seed shape	Round		Wrinkled		5474:1850
Seed colour	Yellow		Green		6002:2001
Whole plants					
Flower colour	Purple		White		705:224
Flower position	Axial		Terminal		651:207
Plant height	Tall		Short		787:277
Pod shape	Inflated		Constricted		882:299
Pod colour	Green		Yellow		428:152

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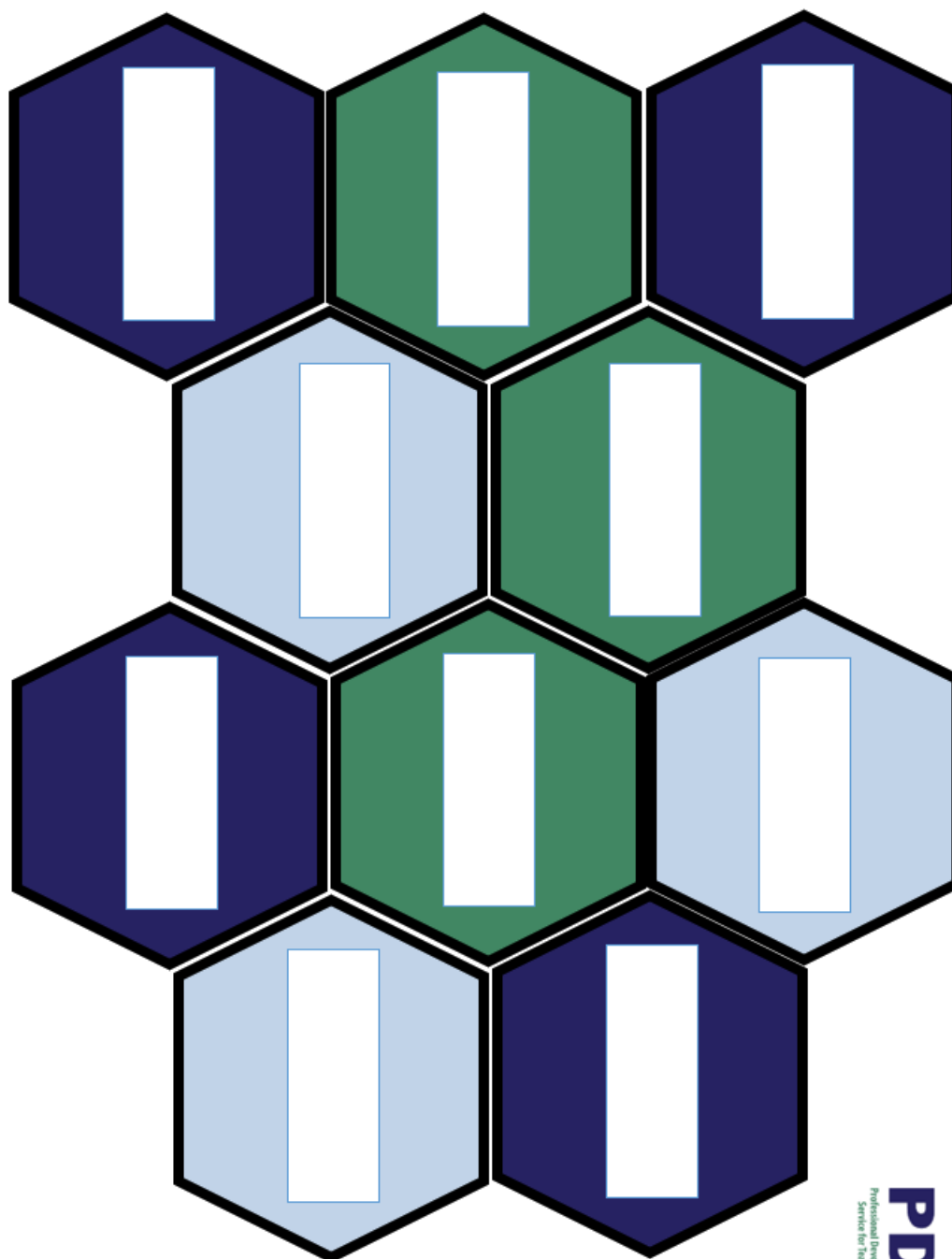
How to Cross pollinate peas:

<https://www.youtube.com/watch?v=Pq7-JGRmFBc>

Teagasc Webinar 18 - Role of grass breeding and evaluation to increase the sustainability of pasture-based systems:

https://www.youtube.com/watch?v=jqp_IK2U0XQ&t=1181s

Hexagonal Template:

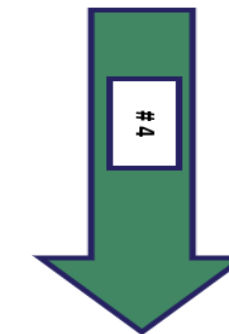
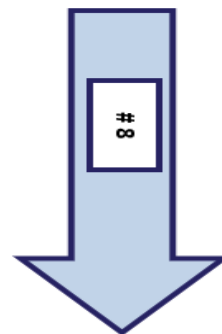
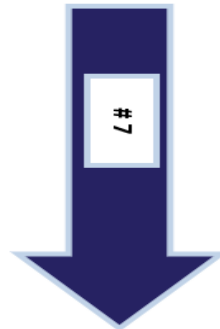
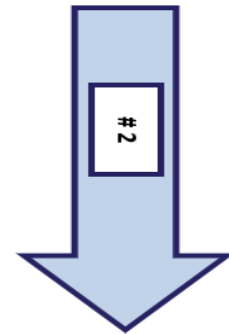
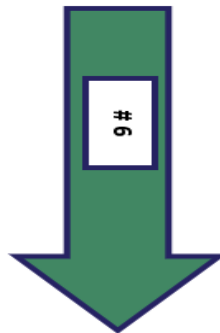
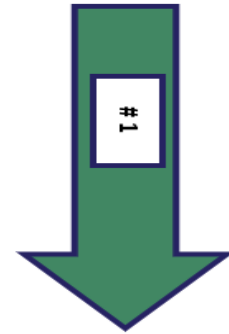
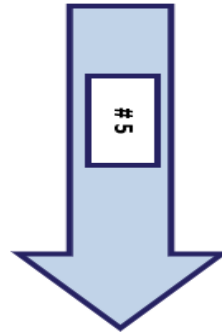




Explain Your Thinking Here

Connection # 1	
Connection # 2	
Connection # 3	
Connection # 4	
Connection # 5	
Connection # 6	

List of Terms			





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