

Name: _____



An tSraith Shóisearach do Mhúinteoirí

Junior **CYCLE**

for teachers

Cluster Delivery 2019/2020

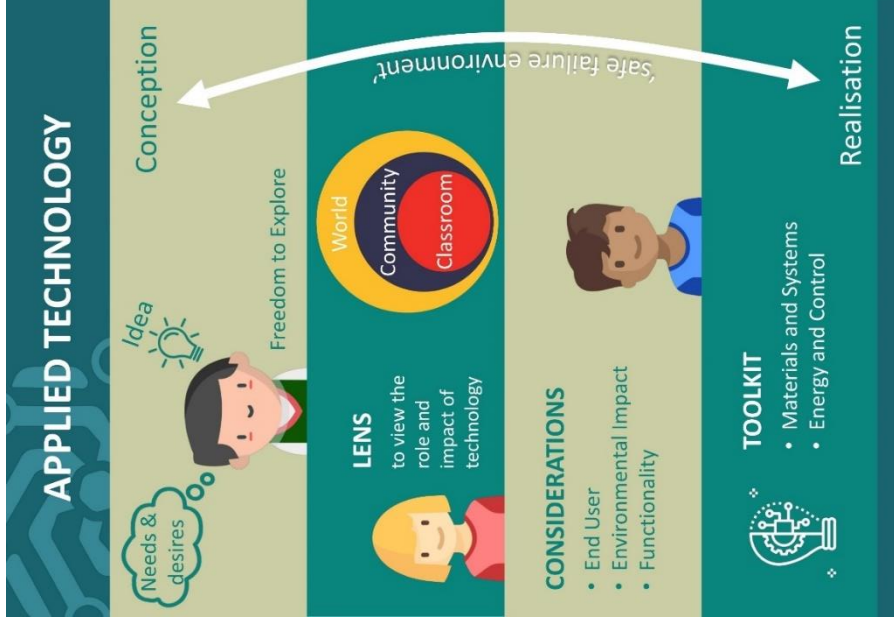
Applied Technology



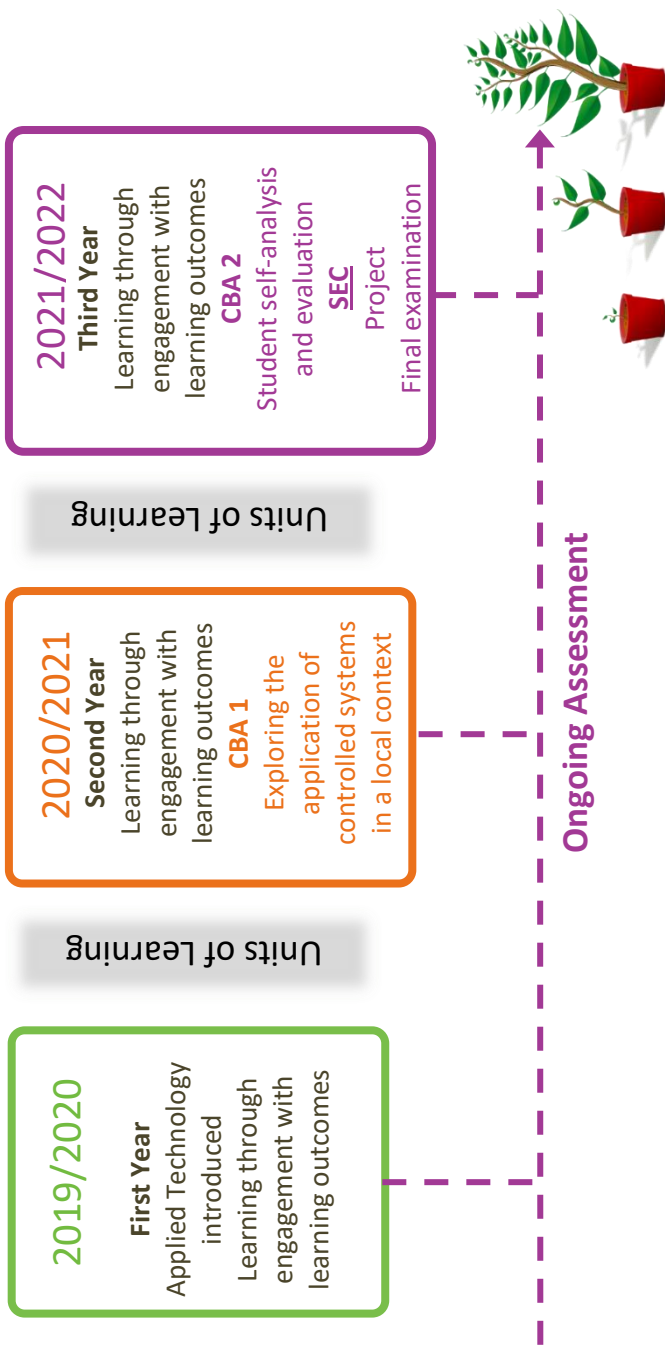
An Roinn Oideachais
agus Scileanna
Department of
Education and Skills



Rationale & Aim



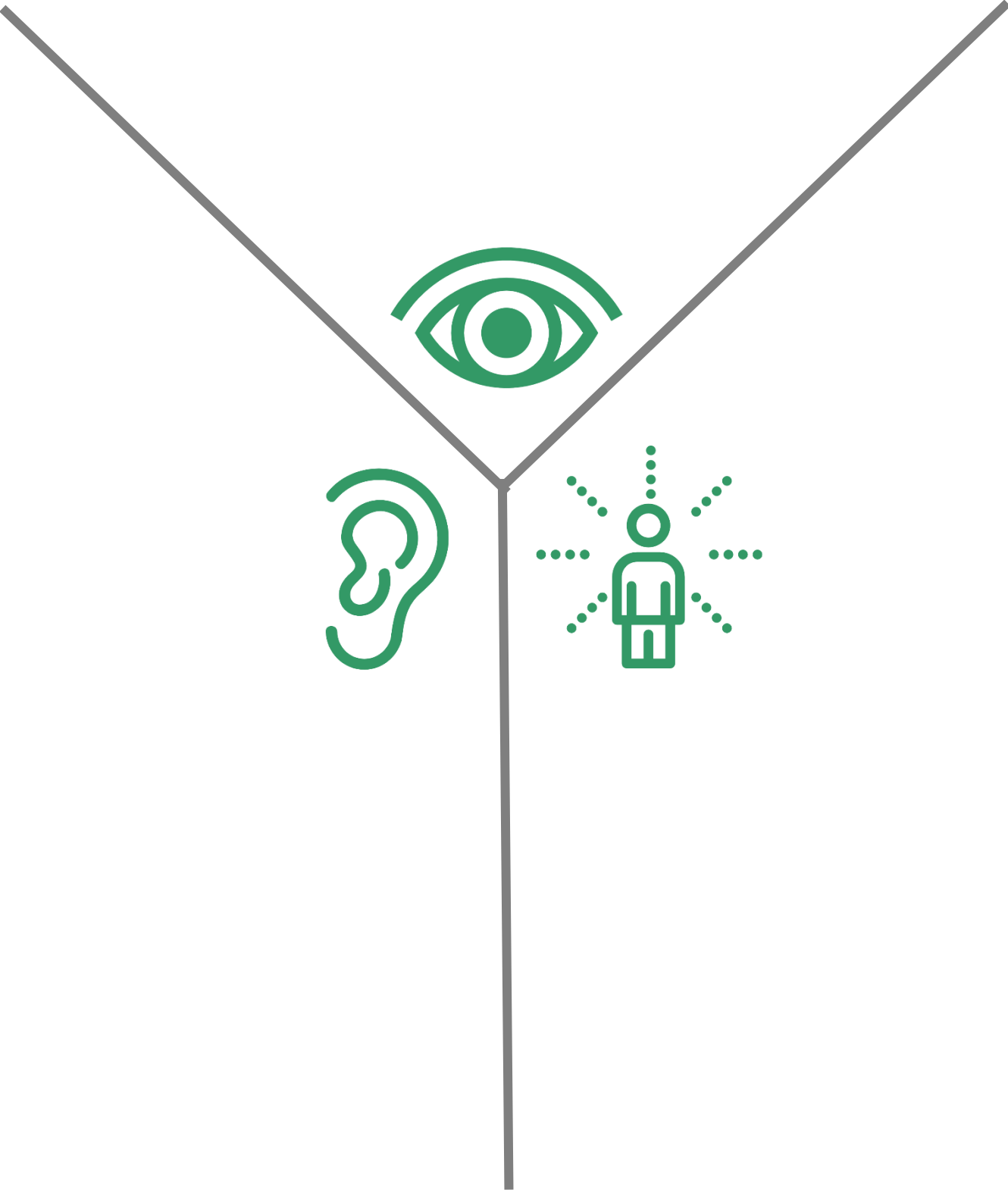
A Student's Learning Journey



Activity – User Experience

For students in an Applied Technology class what might 'quality' learning look like, sound like and what might they experience?

Use the spaces below to explore student's experience.



School Context

Riverside Community School



Riverside community school is a co-educational secondary school located in an urban area. There is one first-year Applied Technology class group with a 70:30 boy/girl split. The students are particularly interested in sport, coding and many are members of a local youth group. The group have engaged with two design-and-make projects and have completed portfolios. Some students had difficulty communicating their thinking in the portfolio, so more support is needed in this area.

They are an active group and engage well in group discussions. Many students showed a strong understanding of basic electronics. The teacher feels that the students in the group would respond well to a unit of learning with an applied control focus included and with an opportunity for students to investigate issues in their local environment.

Key Learning Activity

Use the space below to record the key learning you have identified.

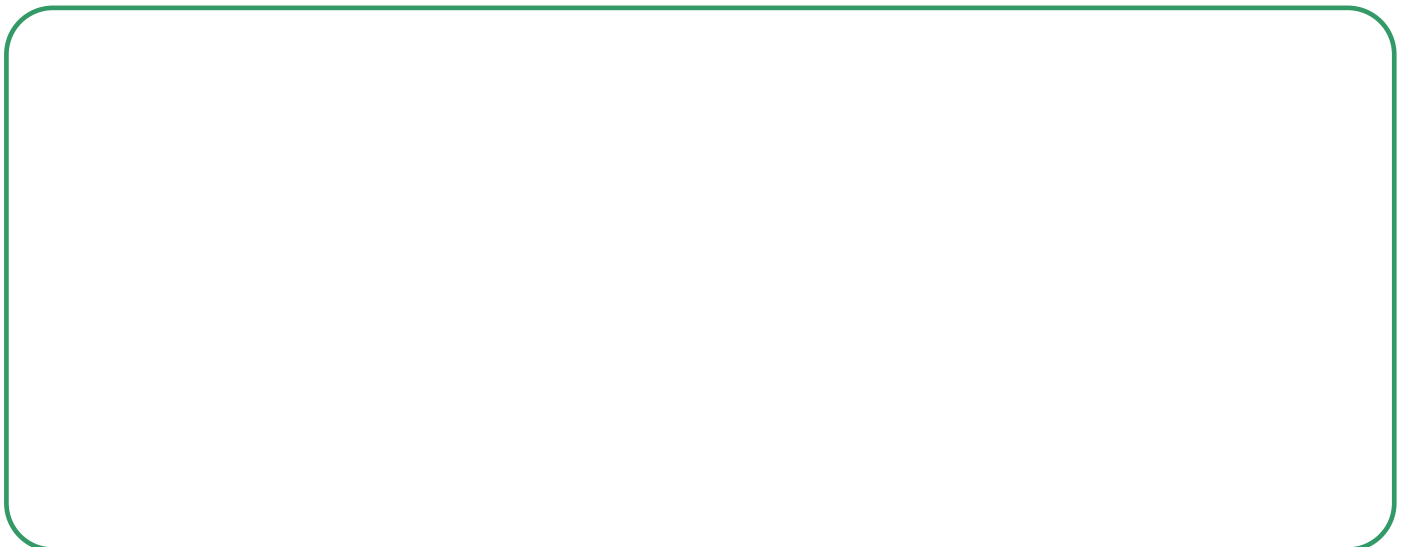
Activity: Reflection on Research

At present, what does student research look like?



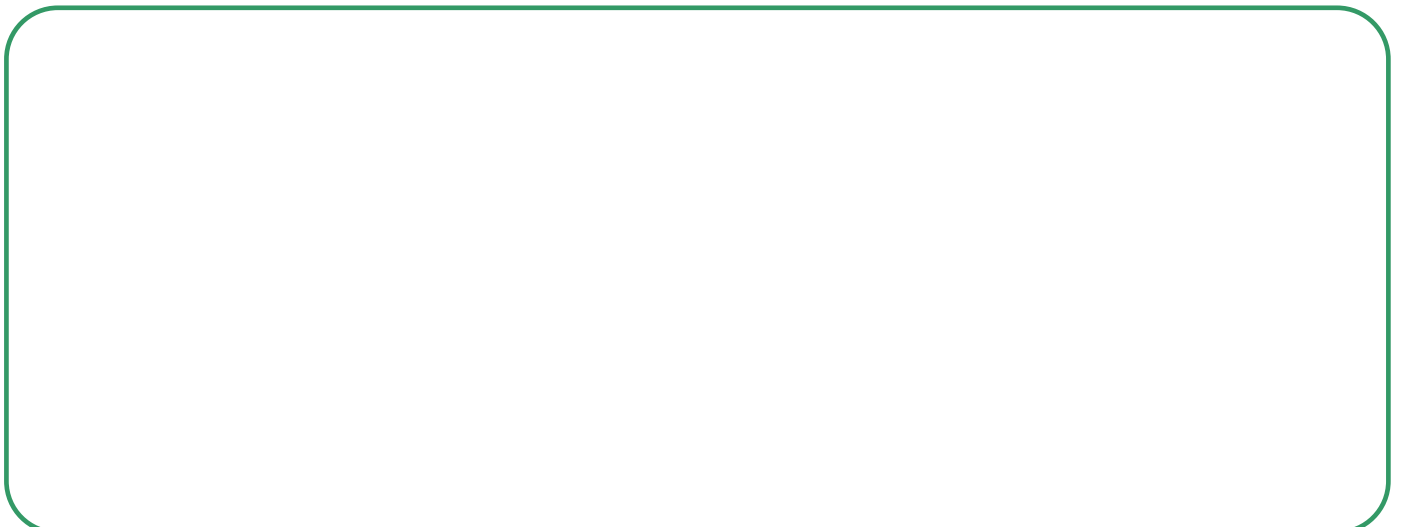
Activity: Reflection on Design

At present, what does student design look like?



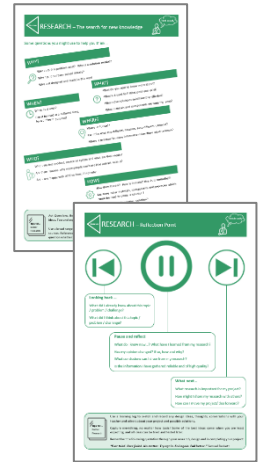
Activity: Reflection on Realisation

At present, what does student realisation look like?



Activity: Using 'My Design Guide' – Identifying problems and challenges

Task 1: What questions do you need to ask to better **understand** this situation?



Activity: Using 'My Design Guide' - Developing curiosity

Task 1: What questions do you need to ask to better **understand** this situation?

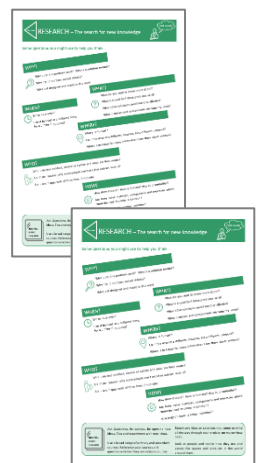
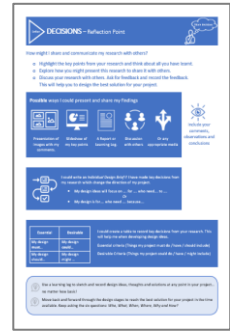
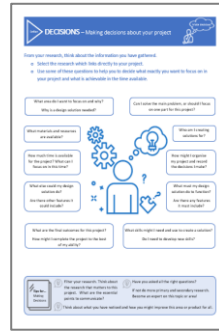


Photo by Casey Clingan on Unsplash

Using My Design Guide

Decision making, idea generation and working with constraints



Is there a better solution?

Write a design brief for how you might solve this problem.

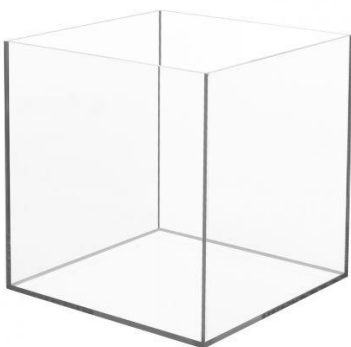
- **My design will focus on ... for ... who need ... to ...**

How would your design ideas change if you had to include one of the following items?

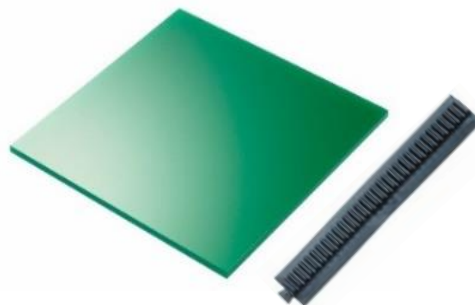
Realising solutions

(How can I make my design idea?)

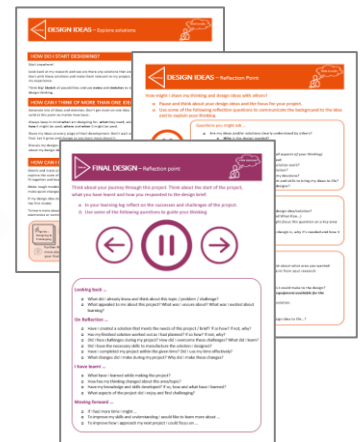
Q: By design or otherwise, how might I assemble my solution effectively?



Sides of an Acrylic box?



A rack to a piece of Acrylic?



Q: Do I have the time, materials, equipment and skills to bring my idea to life?

Group Feedback and Reflection

How might you use 'My Design Guide' to support student learning?



Can you suggest other effective strategies that support students to learn best and manage their own learning?

Activity: Generating success criteria

Discussion:

In responding to this thematic brief what might effective research, design and realisation look like?

Student brief:

Design a model of a solution to help reduce road traffic accidents in your local area.



Task:

Work together to decide the success criteria for effective research, design and realisation in responding to this brief. Record your agreed criteria in the space below.

Effective research



Effective design

Effective realisation

Activity: Applying success criteria

Using the success criteria, how effective was the quality of learning for each student?

Michael's response – Project A

Quality of research:

Quality of design:

Quality of realisation:

Caoimhe's response – Project B

Quality of research:

Quality of design:

Quality of realisation:

Success criteria – Teacher language



What effective **research** looks like?

- Focus on road safety in their local context.
- Show a range of road safety information and statistics.
- Personal reflection evident with reference to their local context

What effective **design** looks like?

- A range of ideas are considered
- The chosen idea chosen is justified and linked to research
- The function and features of the design are communicated clearly.

What effective **realisation** looks like?

- Evidence of accuracy in processing and assembly is shown
- A range and depth of skills is shown
- The solution responds to the brief.
- Reflection of the project process and final idea is evident.

Success criteria – Student friendly language



What effective **research** looks like?

- I have researched road safety issues in my local area.
- I have shown a range of road safety solutions
- I have researched road safety information
- I can explain what I have learnt and how I might improve the situation

What effective **design** looks like?

- I have presented a range of design ideas
- I have explained how my design idea is linked to my research.
- I have communicated all parts and details of my design and my thinking

What effective **realisation** looks like?

- I can make my design solution to a high standard.
- I have shown a range of manufacturing skills
- I have created a solution to reduce road traffics accidents in my local area.
- I have explained what I have learnt and how I might improve in my next project.

Feedback statements

Consider each of these and then tick those that you consider to be examples of good formative feedback

Tell us more. What do they look like?

How do they move?

Gold star

Explain why you think this

How do you think he felt?
 Angry that people did not trust him?
 Annoyed with himself for lying in the past?

Beautiful, neat work

Well done!!

You have clearly stated one way an archaeologist may find a site. Are there any others?

Develop these ideas further

Describe the expression on his face

Good, but not as good as your brother's!

How do you know...?

You must try harder

First place in the class

Try one of these or one of your own instead of bad - ferocious, terrifying, evil

Lovely diagram

You're the best

10/10

He showed he was a good friend when... (finish this sentence)

You gave a very realistic description on the damage caused by an earthquake.

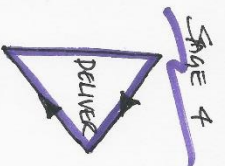
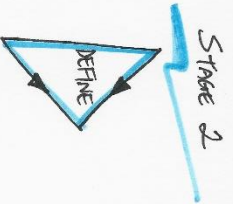
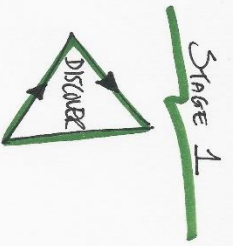
To improve your work, you need to include all the key terms. Look back and check the list to see which ones you have left out.

What signs of coastal erosion did you see on your field trip? E.g. rock erosion, falling cliffs, structural damage to walls, etc

NCCA Focus on Learning Workshop 03, page 7



Our planning process for this unit of learning



1 Context & Prior Learning

April / May 1st year

o PL: Applied Control Mechanisms

o 2 Design + Nabeo + N/Aval Tech.

o Ideas - Electronics + Beer Control Mechanical

2 Focus of Learning -

o Further Develop Design + Revision skills

o Promote student curiosity - Social issues

o by See they can impact social issues - content possibly through SDG goals
o Cross curricular.

o Develop deeper understanding of Applied Control

o Further develop exposure of working through a thorough Brief + Responses / questions

3 Explore Structures + Elements + 2 Outcomes

o Focus on Strands 12 + BUILD 11 + 15

o Learning Outcomes: 2.8, 1.8, 1.2, 3.3, 3.4, 3.1, 1.13, 1.1, 3.4, 2.2, 1.10 2.1

4 Learning Outcomes - (CHOSEN)

o 1.8 - Create controlled solutions to identified problems.

o 1.12 - Analyse problem using a systematic approach

o 1.1 - Develop a design solution defining an objective (using evidence gathering and decision making)

o 1.13 - (Annuate evidence of the iterative process of design)

o 2.4 - Design a logical sequence of instructions to control a device or system

o 3.3 - Explain how human, social, and environmental considerations affect systems + outcomes.

5 LENS OF SDG GOALS -

o Focus on Goal 3 - Better

o Better: 'designs a solution to keep Remote Camp teachers in your local area'

6 Key Learning

o Further develop student understanding and experience of research, design + evaluation

o Apply control + systems thinking to create a solution to this brief

o Building student awareness of food safety and prepare solution to address this in their local area.

8 Possible Learning Experiences

o Thematic Brief - Success Criteria * (Portfolio + Response) - Share

o Rand Split - RSA Representative

o Site List

o Rate play - Situation

o Storyboards - Scenario *

o Group Mind Map

o Identify Risks

o 2 year Needs

o Core Context (Questionnaires)

o Applied Control - 5 phases

o Traffic sequence - Program *

o Hubert - critical ? discovery ? Malware.

o Experiment

o Introduce Systems Thinking

o Random Research - Evaluate * (Presentation)

o Focus (Presentation)

10 Resources to Support Students

o Focus on Niclasit

o Response - Helixnet + Software of Discovery

o Design Guide - Runway Research, Questioning

o Co-Create Success Criteria

o Material Focus - Build on Skills - Analytical Maintenance

11 Methodologies

o AFL - Feedback Loop

o Group Centric - Fun!

o Learning Log - Decisions

o Extends - Context Requiring






13 Assessment + Reporting

o Portfolio + Evidence

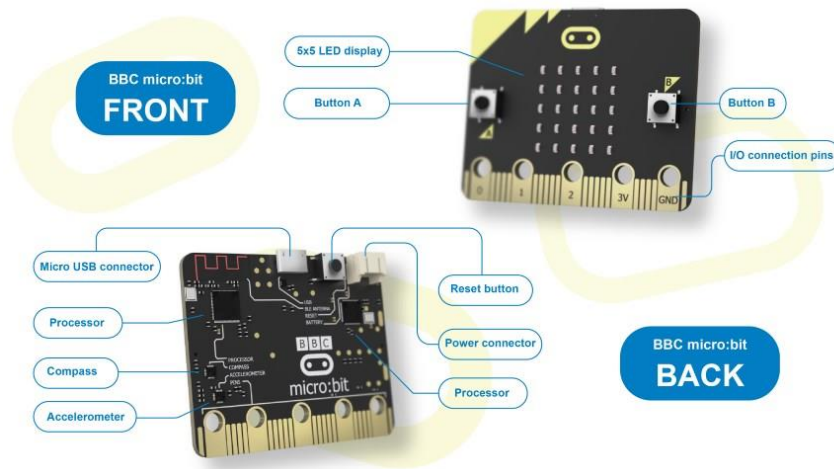
o Records Feedback

o Success Criteria

Recording our planning decisions for this unit of learning using the Digital Planning tool

| | | | | |
|---|--|---|--|--|
|  | <p>Teacher Name: Click or tap here to enter text.</p> <p>Unit: CPD Day 2019/2020</p> | <p>APPLIED TECHNOLOGY PLANNER</p> <p>Duration: 4-6 weeks</p> | <p>Class Group: 1st years</p> <p>Date Commence: Click or tap to enter</p> |  |
| <p>AGE AND STAGE:</p> <p>First Year</p> <p>I. April/May 1st year 4-6 week unit of learning</p> <p>PRIOR LEARNING:</p> <ul style="list-style-type: none"> 2. Design and Make Projects and portfolios | <p>LENS TO FOCUS THE LEARNING (OPTIONAL)</p> <p>Sustainable Development Goals</p> <p>KEY LEARNING</p> <p>1.1, 1.2, 1.13: Further develop students understanding and experience of research, design and realisation</p> <p>1.2, 2.4, 2.8: Apply control and systems thinking to create a solution to this brief</p> <p>1.1, 1.2, 1.3: Building student awareness of road safety and propose solutions to address this in their local area</p> | <p>HOW COULD STUDENTS EXPERIENCE THIS LEARNING?</p> <ul style="list-style-type: none"> Thematic brief- success criteria (portfolio +responses)-stages Road Safety – RSA representative <ul style="list-style-type: none"> Site visit Role play – discussion Storyboard- scenarios - identify risks – user needs Groups – mind-map- local content Applied control - software <ul style="list-style-type: none"> Traffic sequence – program Microbit control – discovery learning (allows experimentation) Introduce systems thinking – respond to the brief Primary research – evidence gathering Evidence gathering <p>RESOURCES</p> <ul style="list-style-type: none"> Focus on microbit response – hardware + software- IT access ‘My Design Guide’ – primary research, questioning Co-create success criteria Material focus – build on skills – acrylic manufacture <p>METHODOLOGIES</p> <ul style="list-style-type: none"> AFL – Feedback loop Group critique – final Learning Log – decisions Experts – control programming <p>ASSESSMENT AND REPORTING</p> <ul style="list-style-type: none"> Portfolio Evaluation Recorded feedback Success criteria | <p>ONGOING ASSESSMENT</p> <p>Questioning skills focus</p> <ul style="list-style-type: none"> Identifying risk/ hazards <p>REFLECTION</p> <p>This resource is only for use during ICT facilitated Applied Technology workshops</p> |    |
| <p>EXPLORE STRANDS AND ELEMENTS:</p> <p>1.1, 1.2, 1.8, 1.10, 1.13, 2.2, 2.4, 2.8, 3.3, 3.4, 3.5</p> <p>CHOSEN LEARNING OUTCOMES</p> <p>1.1 develop a design solution drawing on experience and using evidence, reasoning and decision making</p> <p>1.2 analyse problems using a systematic approach</p> <p>1.13 communicate evidence of the iterative process of design</p> <p>2.4 design a logical sequence of instructions to control a device or system</p> <p>2.8 create control solutions to indented problems</p> <p>3.3 explain how human, societal, and environmental considerations affect solutions and outcomes</p> | <p>ACTION VERBS</p> <p>Analyse: study or examine something in detail; break down in order to bring out the essential elements or structure; identify parts and relationships; and to interpret information to reach conclusions</p> <p>Communicate: use visual/ gestural, verbal or other signs to share meaning or exchange information; interaction between sender and recipient; both work together to understand</p> <p>Create: process and give form to the topic of what is to be created using selected methods and material and/or to give the material used a new form</p> <p>Design: planning the features of a solution that solves a perceived user problem</p> <p>Develop: advance a piece of work or an idea from an initial state to a more advanced state</p> <p>Explain: give a detailed account including reasons or causes</p> | | | |

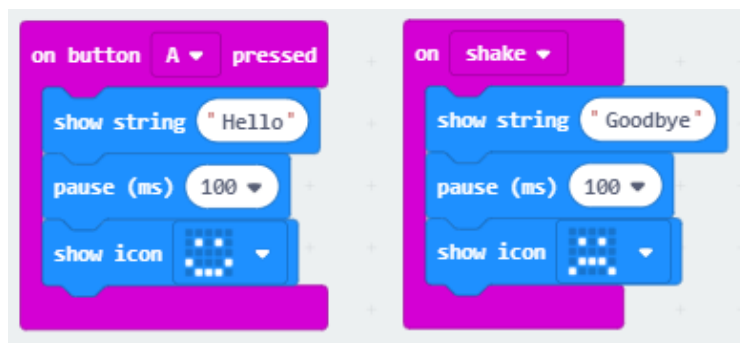
Developing creative thinking and problem-solving skills through coding.



Go to <https://makecode.microbit.org/>

micro:bit activity:

Introduction to basic commands

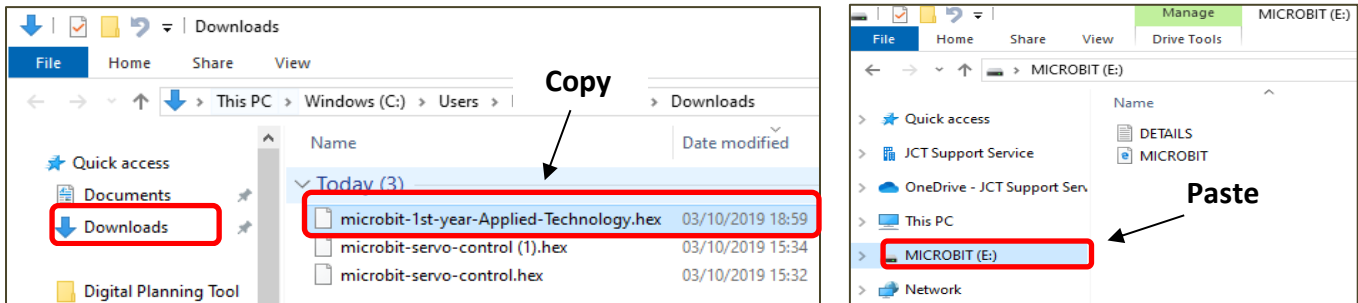


Steps

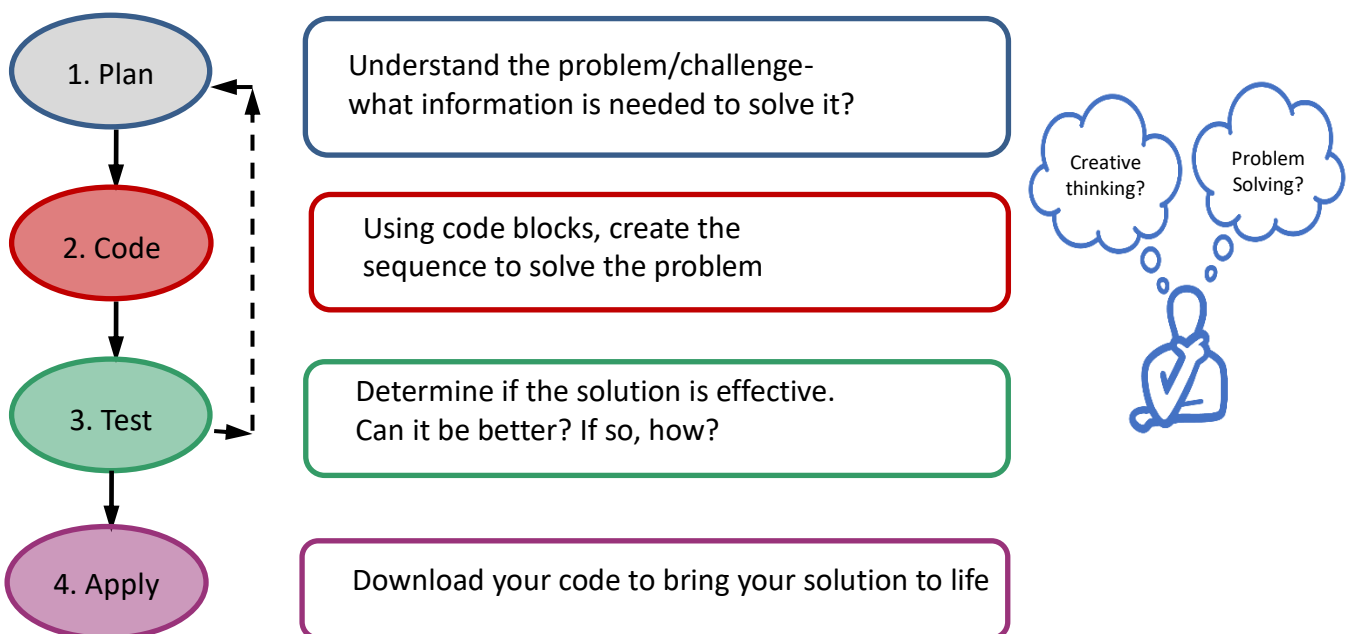
1. Place a **on button pressed** block to run code when button A is pressed.
2. Place a **show string** block inside **on button A pressed** to display text. Change text as required.
3. Place a **pause** block after the **show string** block. Change the pause time as required.
4. Place a **show icon** block after the **pause** block. Change the icon as required.
5. Copy and paste the completed **on button A pressed** block.
6. Rename on 'button A' to 'shake'. Change the icon as required.
7. Look at the simulator and make sure it shows your text and icons on the screen.
8. If you have a micro:bit connected, click **Download** to transfer your code!

To transfer the HEX file to the micro:bit.

Once the file is downloaded, 'copy' the file from the Downloads folder and 'paste' it into the micro:bit drive.



Planning for coding skills development



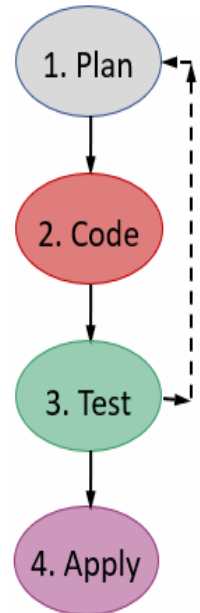
Coding Challenge 1:

Caoimhe wants to include a digital display for a model pedestrian crossing in her project.

After a countdown of five seconds, the display will indicate to the pedestrian to walk. After another two seconds, the display will indicate to other pedestrians approaching the crossing to stop.



Planning Process



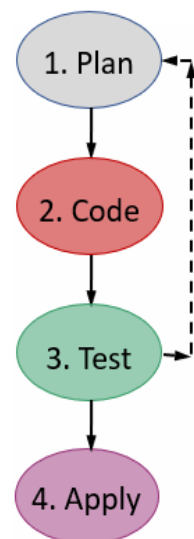
Pause and reflect

How effective was this planning process in facilitating creative thinking and problem solving?

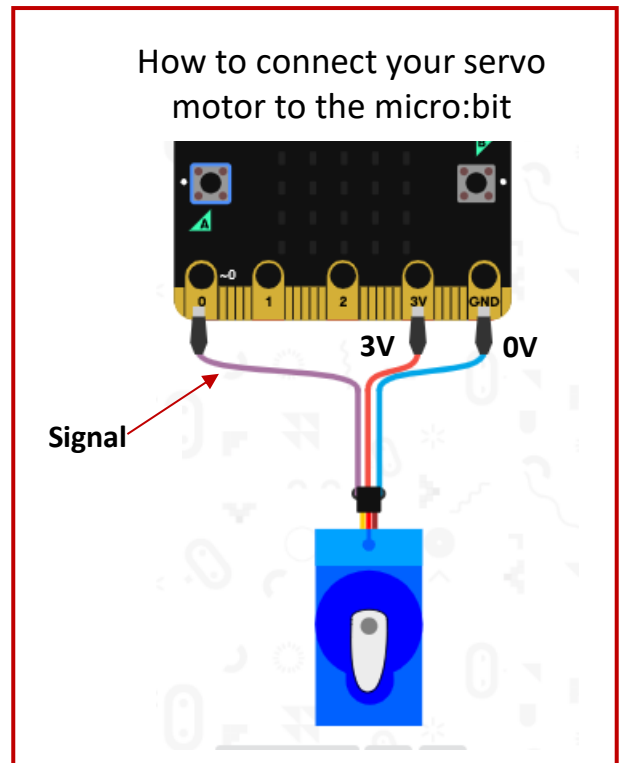
How might this process support students?



Planning Process

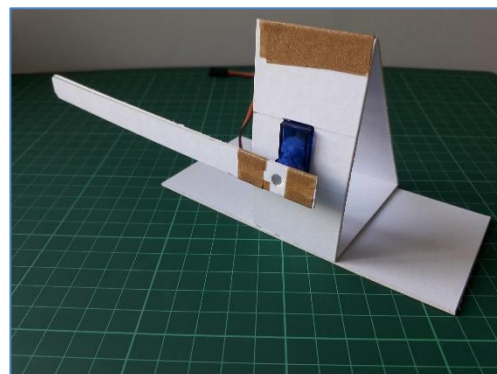


Notes:

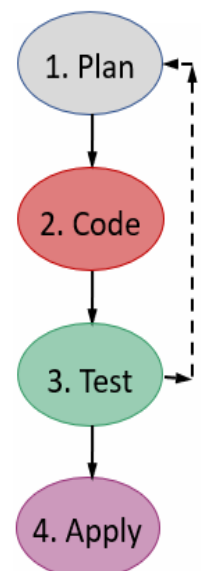


Coding Challenge 2:

Open and close a barrier using a servo motor

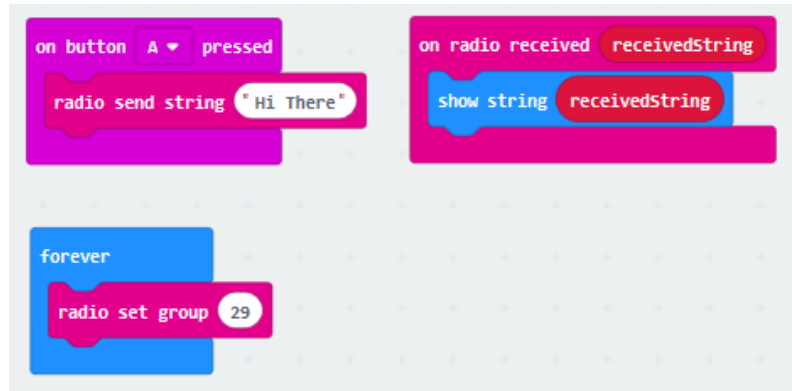
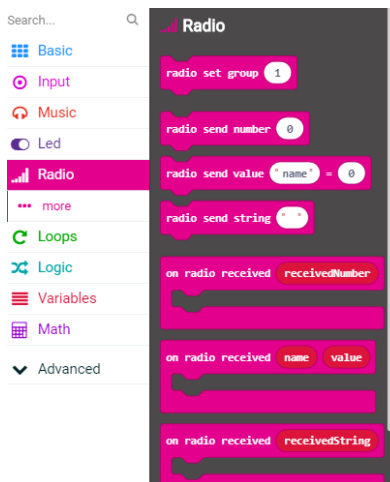


Planning Process



Micro:bit activity:

Use the **radio** to send and receive messages with another micro:bit

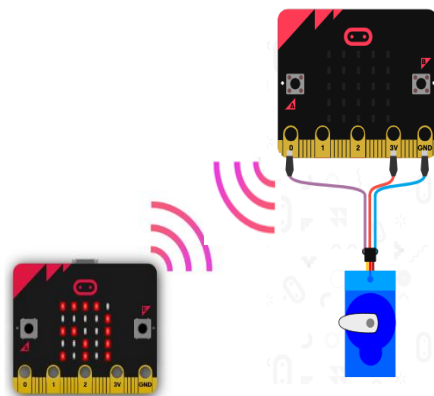


Steps

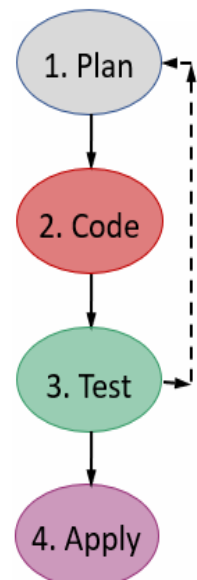
1. Place a **on button pressed** block to run code when button **A** is pressed.
2. Place a **radio send string** block inside **on button pressed** block. Change text as required.
3. Place a **show string** block inside on **radio received 'received string'** block.
4. Copy and paste **received string** into the **show string** block.
9. Ensure that both micro:bits communicate directly by setting the **radio set group** to the same channel number.
10. Look at the simulator and make sure it shows your text and icons on the screen.
11. If you have a micro:bit connected, click **Download** to transfer your code!

Coding Challenge 3:

Use one micro:bit to send a radio signal to another micro:bit to open its barrier for two seconds. Then close the barrier.



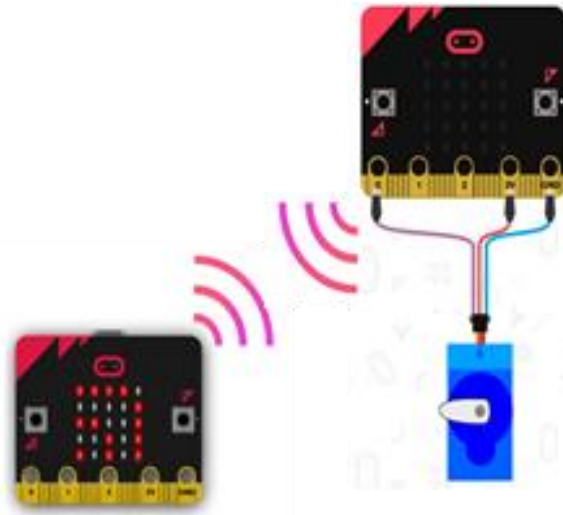
Planning Process



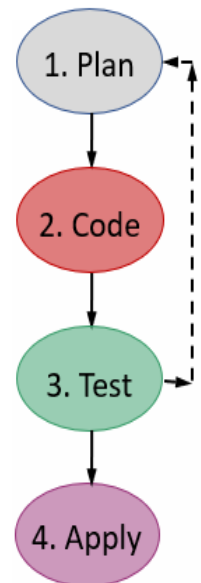
Coding Challenge 4:

Coding challenge 3 modification:

If button A or Button B on one micro:bit is pressed, the barrier connected to another micro:bit is opened or closed.



Planning Process



Extension Challenge

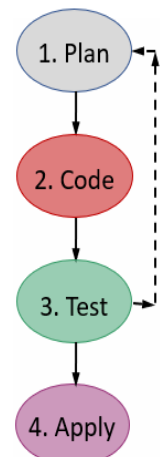
Some road safety signs display the speed of the oncoming traffic. Use the radio feature to wirelessly communicate between two micro:bits and complete the following task.

Task:

If a random number picked on one micro:bit is ≤ 50 , display a happy face on the second micro:bit, otherwise display a sad face.



Planning Process



For further tutorials:

<https://makecode.microbit.org/#>

Future Learning for Students

What must I consider if I want to advance my prototype to a final solution?

DESIGN IDEAS – Reflection Point

How might I share my thinking and design ideas with others?

- Pause and think about your design ideas and the focus for your project.
- Use some of the following reflection questions to communicate the background to the idea and to explain your thinking.

Pause & Reflect

Questions you might ask ...

- Are my ideas and/or solutions clearly understood by others?
 - Why is the design needed?
 - What is the problem?
 - What is the design idea?
 - Our objectives to make all aspects of your thinking!
 - When and where might it be used?
 - How might the design idea or solution work?
 - How will I make / build my solution?
- Have I communicated my thinking and my decisions?
 - Do I have the time, materials, equipment and skills to bring my ideas to life?
 - What have I learned from my prototype design?

Gather Feedback

Questions you might ask ...

- What do you like and dislike about my design idea/solution?
- What would you suggest I try / add / delete / do ...?
- How might I improve my idea? (You might focus this question on a key area of your project)
- Have you any questions about what my design is, why it's needed and how it works?

Evaluate

Evaluate the feedback ...

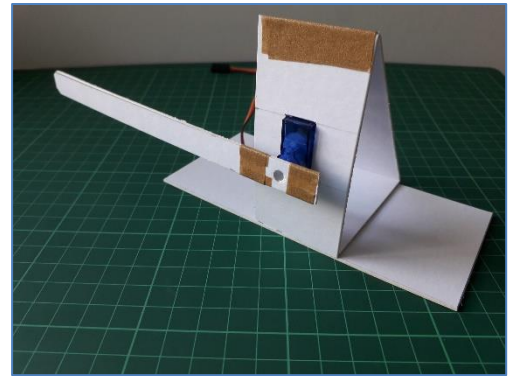
- Look to the feedback from others. Think about what area on which you wanted to focus on, for whom and what you learnt from your research.

Think about making changes ...

- Are there any changes or improvements I could make to the design?
 - Think in mind the time, materials and equipment available for the project and your skills and experience.
 - Refine/Modify my idea to reach a final solution.

Move forward with your design/idea ...

- What can I do next to bring my final design idea to life?



Notes

Classroom-Based Assessments in Applied Technology

There are two Classroom-Based Assessments in Applied Technology. They are assessed at a common level. They relate to learning outcomes and are scheduled to be undertaken by students in a defined time period within class contact time to a national timetable (as advised by the NCCA) in the school calendar. This timetable for Classroom-Based Assessments for all subjects will be provided on an annual basis at www.ncca.ie/junior-cycle and at www.curriculumonline.ie/Junior-cycle.

Classroom-Based Assessment 1: Exploring the application of controlled systems in a local context

Exploring the application of controlled systems¹ in a local context provides opportunities for students to engage in practical, authentic learning experiences that gives them the opportunity to investigate the role of controlled systems in a local setting. The local setting can be the classroom, the school, within their community, etc. The Classroom-Based Assessment will ask students to research, analyse and draw conclusions on the function of their chosen controlled system.

Students have the option of investigating a controlled system that currently exists in their chosen local setting or alternatively, they may choose to explore the option of introducing a controlled system that would result in it having a defined function. Either of the approaches should be conducted through the lens of:

- research and analysis
- function
- evaluating their Classroom-Based Assessment
- communicating their Classroom-Based Assessment.

Students will capture the various stages of the Classroom-Based Assessment through a learning log that will be presented as part of their final submission. The learning log can be produced in a suitable format, to be decided upon in agreement with the teacher that captures the student's work throughout the Classroom-Based Assessment. Students may present models, artefacts, and any other form of evidence to accompany the learning log to further communicate their findings if they deem it necessary. The learning outcomes assessed will, to an extent, depend on the topic chosen and the media in which the work is presented.

¹ Controlled system = a controlled system is where components are used to modify the behaviour of a system, so it behaves in a specific way

CBA 1: Exploring the application of controlled systems in a local context

CBA skills:

Learning experiences
from today:

Teacher Preparation

Getting ready



Completing
the CBA



Deciding on
the level of
achievement



Next steps

'Planning for teaching, learning and assessment should develop students' knowledge, understanding, skills and values across the learning outcomes of the specification incrementally in advance of, and during the completion of the Classroom-Based Assessment. The role of the teacher should be to guide, support, enable and provide direction to students as they complete their Exploring the application of controlled systems in a local context Classroom-Based Assessment.'

Ref: Guidelines for the Classroom-Based Assessments, Page 11.

Consider the function of your chosen controlled system.

Controlled system chosen:

Function:

Consider primary and secondary research opportunities:

Sample of possible controlled systems

- Explore an emergency stop system in a workshop
- Automatic lighting system in a corridor
- Entry/Egress system into a building
- Fire Extinguisher
- Communications control system
- Radio controlled system
- Motion controlled system to enhance inclusivity in our school

Assessment guidelines, Page 13

Features of Quality: Exploring the application of controlled systems in a local context

| | |
|--|---|
| <p>Exceptional</p> <p>A piece of work that reflects these Features to a very high standard. While not necessarily perfect, the strengths of the work far outstrip its flaws, which are minor. Suggestions for improvement are easily addressable by the student.</p> | <ul style="list-style-type: none"> ▪ The research method(s) chosen demonstrated a comparison of a range of sources which led to the production of a comprehensive and detailed analysis of the data/findings ▪ The controlled system chosen was investigated with a high level of detail showing excellent understanding of its function ▪ Critical evaluation of their task was evident throughout that lead to refinements at various stages resulting in meaningful, accurate conclusions and predictions of its defined function. ▪ The presentation of the task is of an excellent standard; using a highly effective medium which allowed for a critical consideration of what information best communicates the task |
| <p>Above expectations</p> <p>A piece of work that reflects these Features very well. The student shows a clear understanding of how to complete each area of the task. Feedback might point to the necessity to address some aspect of the work in need of further attention or polishing, but on the whole the work is of a high standard.</p> | <ul style="list-style-type: none"> ▪ The research method(s) chosen was effective for the topic and generated an in-depth level of analysis of the data/findings ▪ The controlled system chosen was investigated in detail showing a very good understanding of its function ▪ The evaluation of their task is at a high level, with relevant and accurate conclusions that indicates a defined function ▪ The task is presented to a very high standard, using an effective medium, with careful consideration of what information accurately communicates the task |
| <p>In line with expectations</p> <p>A piece of work that reflects most of these Features well. It shows a good understanding of the task in hand and is free from significant error. Feedback might point to areas needing further attention or correction, but the work is generally competent and accurate.</p> | <ul style="list-style-type: none"> ▪ The research method(s) chosen was appropriate for the topic and generated some analysis of the data/findings ▪ The controlled system chosen was investigated with some reference to its functionality ▪ The evaluation was appropriate; conclusions are brief and include some suggestions on a defined function ▪ The task is well presented, using an appropriate medium, with careful consideration of what information to communicate to best showcase the task |

Yet to meet expectations

A piece of work that falls somewhat short of the demands of the Classroom-Based Assessment and its associated Features

Perhaps the student has made a good attempt, but the task has not been grasped clearly or is marred by significant lapses. Feedback will draw attention to fundamental errors that need to be addressed.

- The research method(s) chosen for the topic/issue was ineffective and the analysis of the data/findings lacks depth.
- The controlled system chosen was investigated with little detail with little or no reference to its functionality
- The evaluation of their task offers little or no conclusions and makes no suggestions on a defined function
- The task is presented in an unsuitable format resulting in an ineffective communication of the Classroom-Based Assessment

Before the SLAR Meeting

Teachers will

- Assess student work based on the Features of Quality
- Review relevant NCCA annotated examples as necessary (www.curriculumonline.ie) Record the descriptor and any other relevant points that may be useful to refer to during the SLAR meeting
- Identify one example, where possible, for each descriptor, to be used in the SLAR meeting
- Submit details of samples of work for discussion to the facilitator before the SLAR meeting

Facilitators will

- Collect & copy samples of work submitted by teachers
- Develop a running order for the SLAR meeting

During the SLAR Meeting

Teachers will

- Introduce one sample at “Yet to Meet Expectations” level
Collaboratively review the piece of work
- Make note of the implications of decisions made during the meeting for the rest of the student work that they have assessed
- Focus on a ‘best fit’ approach which allows teachers to agree the descriptors that on-balance is most appropriate for the work being discussed
- Repeat the process, in turn, for a sample at each of the descriptors

Facilitators will

- Open the meeting with a focus on consistency of judgement and a common understanding about the quality of student learning
- Highlight the value of the meeting in providing feedback to students
- Lead the general discussion of samples of work and Descriptors and note any decisions made
- Look to establish consensus but focus on the development of professional knowledge and skills

After the SLAR Meeting

Teachers will

- Consider the assessment of their students’ work based on the SLAR meeting Report their final descriptors for each student

Facilitators will

- Complete and submit the Facilitator’s Report to the Principal
- Reflect on what worked well or what could be improved upon in the next SLAR meeting
- The Facilitator may also ask teachers, should they wish, to contribute some of their samples of student work to a bank of examples: To support the induction of new teachers. To support future SLAR meetings. To use with students and parents in demonstrating the standard of work achieved

Classroom-Based Assessment 2: Student self-analysis and evaluation

Student self-analysis and evaluation provides opportunities for students to conduct an analysis of their coursework and skills to date in Applied Technology. Students will focus their analysis and evaluation on a range of tasks or on a specific task. Students are expected to critically review their progress and identify areas of strength and areas for improvement, with a view to informing their work for the State Examination Commission project at a later date.

The importance of the second Classroom-Based Assessment, **Student self-analysis and evaluation**, is that it allows for students to engage in the practice of reflecting on their abilities prior to commencing a piece of work. Once the student conducts the self-analysis, they must interpret their analysis and evaluate their findings to offer constructive direction for the upcoming project. The student can communicate the self-analysis and evaluation process through any appropriate media that captures the process. To help structure their approach to the Classroom-Based Assessment, the students should focus their work through the lens of:

- identifying coursework elements
- reflecting on learning
- communicating their Classroom-Based Assessment.

| Features of Quality: Self Analysis and Evaluation | |
|---|---|
| <p>Exceptional</p> <p>A piece of work that reflects these Features to a very high standard. While not necessarily perfect, the strengths of the work far outstrip its flaws, which are minor. Suggestions for improvement are easily addressable by the student.</p> | <ul style="list-style-type: none">▪ The student has identified a diverse range of coursework elements, that allows them to make insightful detailed observations and a comprehensive self-analysis on the development of their skills to date.▪ Critical judgements were made on areas of strengths and areas for improvement and demonstrated an exceptional level of awareness of how these would inform future work.▪ The presentation of the findings is of an excellent standard; using a highly effective medium which allowed for a critical consideration of what information best communicates the Classroom-Based Assessment. |

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| <p>Above expectations</p> <p>A piece of work that reflects these Features very well. The student shows a clear understanding of how to complete each area of the task. Feedback might point to the necessity to address some aspect of the work in need of further attention or polishing, but, on the whole the work is of a high standard.</p> | <ul style="list-style-type: none"> ▪ The student has identified a broad range of coursework elements, that allows them to make detailed observations and some in depth self-analysis on the development of their skills to date. ▪ Judgements made on areas of strengths and areas for improvement were detailed and demonstrated a very high level of awareness of how these would inform future work. ▪ The findings are presented to a very high standard, using an effective medium, with careful consideration of what information accurately communicates the Classroom-Based Assessment. |
| <p>In line with expectations</p> <p>A piece of work that reflects most of these Features well. It shows a good understanding of the task in hand and is free from significant error. Feedback might point to areas needing further attention or correction, but the work is generally competent and accurate.</p> | <ul style="list-style-type: none"> ▪ The student has identified a range of coursework elements, that allows them to make valid observations and some relevant self-analysis on the development of their skills to date. ▪ Judgements made on areas of strengths and areas for improvement were clear and demonstrated some awareness of how these would inform future work. ▪ The findings are well presented, using an appropriate medium, with careful consideration of what information to communicate the Classroom-Based Assessment. |
| <p>Yet to meet expectations</p> <p>A piece of work that falls somewhat short of the demands of the Classroom-Based Assessment and its associated Features. Perhaps the student has made a good attempt, but the task has not been grasped clearly or is marred by significant lapses. Feedback will draw attention to fundamental errors that need to be addressed.</p> | <ul style="list-style-type: none"> ▪ The student has identified a very small range of coursework elements, providing a limited observation and self-analysis on the development of their skills to date. ▪ Judgements made on areas of strengths and areas for improvement were unclear and demonstrated limited awareness of how these would inform future work. ▪ The findings are presented in an unsuitable format resulting in an ineffective communication of the task. |

The state-certified final assessment

All instructions for the state-certified final assessment will be included in a brief, issued by the SEC and available for students during their third year of Junior Cycle.

Opportunities for Future Learning

Using a micro:bit (or a similar stimulus) and with a focus on enhancing research skills; consider where the learning could go next for your students?

- Explore learning outcomes and key learning
- Consider assessment
- Develop experiences for students to engage in.



Microcontroller board



Research skills

Glossary of Key Terms

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| <p>Learning Outcomes</p> | <p><u>Learning Outcomes:</u> Learning outcomes are statements in curriculum specifications to describe the knowledge, understanding, skills and values students should be able to demonstrate after a period of learning.</p> <p><u>Learning Intention:</u> A learning intention for a lesson or series of lessons is a statement, created by the teacher, which describes clearly what the teacher wants the students to know, understand and be able to do as a result of the learning and teaching activities.</p> | <p>Subject Learning Assessment Review (SLAR)</p> | <p>In Subject Learning and Assessment Review meetings, teachers will share and discuss samples of their assessments of student work and build a common understanding about the quality of student learning. Each Subject Learning and Assessment Review meeting will be subject-specific and will focus on the Classroom-Based Assessment undertaken by the particular year group.</p> |
| <p>Learning Intentions (NCCA Glossary of Terms)</p> | <p>Classroom-Based Assessments are best described as the occasions when the teacher assesses the students using the specific tasks set out in the subject specification. The tasks are clearly described, as are the criteria for assessment to support teacher judgement. The criteria are found in the Features of Quality linked to each Classroom-Based Assessment. Although the assessment is similar to the formative assessment that occurs every day in class, in the case of classroom-based assessment the teachers' judgement is recorded for Subject Learning and Assessment Review and is used in the schools reporting to parents and students.</p> | <p>Unit of Learning</p> | <p>A unit of learning links learning outcomes which clearly set out what the students should know, understand and be able to do as a result of the learning and teaching activities within that unit.</p> |
| <p>Classroom-Based Assessment (CBA) (Framework p. 46)</p> | <p>Classroom-Based Assessments are best described as the occasions when the teacher assesses the students using the specific tasks set out in the subject specification. The tasks are clearly described, as are the criteria for assessment to support teacher judgement. The criteria are found in the Features of Quality linked to each Classroom-Based Assessment. Although the assessment is similar to the formative assessment that occurs every day in class, in the case of classroom-based assessment the teachers' judgement is recorded for Subject Learning and Assessment Review and is used in the schools reporting to parents and students.</p> | <p>Formative Assessment (Framework p. 35-36)</p> | <p>The Junior Cycle will be underpinned by the further integration of formative assessment as a normal part of teaching and learning in classrooms. Formative assessment involves teachers and students reflecting on how learning is progressing and deciding next steps to ensure successful outcomes. A vital part of formative assessment is the feedback that teachers provide to their students. Through a range of assessment activities, the teacher helps the student to identify what has been achieved and where there is room for further learning and development. To facilitate the type of learning envisaged above, the role of the teacher and the dynamics of the teacher-student relationship will evolve. Teachers will place a greater emphasis on integrating assessment into their teaching, so they can better monitor students' progress in learning and identify how they can support students to reflect on and critically analyse their own learning.</p> |
| <p>Features of Quality (NCCA Glossary of Terms)</p> | <p>Features of quality are the statements in the short course/subject specifications that support teachers in making judgements about the quality of student work for the purpose of awarding achievement grades for certification. As success criteria are closely linked to learning intentions and based on the day-to-day processes in the classroom, student learning will gradually come to reflect the requirements set out in the features of quality which are used for certification purposes.</p> | <p>Junior Cycle Profile of Achievement (Framework p. 46)</p> | <p>The JCPA will reward achievement across all areas of learning as applicable: Subjects, Short Courses, Wellbeing, Priority Learning Units, Other areas of learning. The JCPA will draw upon and report on achievement across all elements of assessment including ongoing, formative assessment; Classroom-Based Assessments; and SEC grades which include results from the state-certified examinations and the Assessment Tasks.</p> |
| <p>Summative Assessment (NCCA Glossary of Terms)</p> | <p>Assessment is summative when it is used to evaluate student learning at the end of the instructional process or a period of learning. The purpose is to summarise the students' achievements and to determine whether and to what degree the students have demonstrated understanding of that learning by comparing it against agreed success criteria or features of quality.</p> | <p>Success Criteria</p> | <p>Success criteria are linked to learning intentions. They are developed by the teacher and/or the student and describe what success looks like. They help the teacher and student to make judgements about the quality of student learning.</p> |
| <p>Control System</p> | <p>A control system is where components are used to modify the behaviour of a system, so it behaves in a specific way.</p> | <p>Control System</p> | <p>A control system is where components are used to modify the behaviour of a system, so it behaves in a specific way.</p> |

What are my next steps?

Over the next couple of months...

What I must do?

What I could do?

What new strategies could I use in my classroom?

Software used during the day

Rationale poster – PowerPoint and Inkscape. Icons from www.flaticon.com

Icon images – www.thenounproject.com

Images – www.unsplash.com | www.pixabay.com

QR codes – www.qrstuff.com

Notes

Notes

An tSraith Shóisearach do Mhúinteoirí

Junior **CYCLE** for teachers

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Armagh Road,
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Follow us on Twitter:



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QR code - Feedback form



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Key websites:

www.jct.ie

www.curriculumonline.ie

www.ncca.ie

