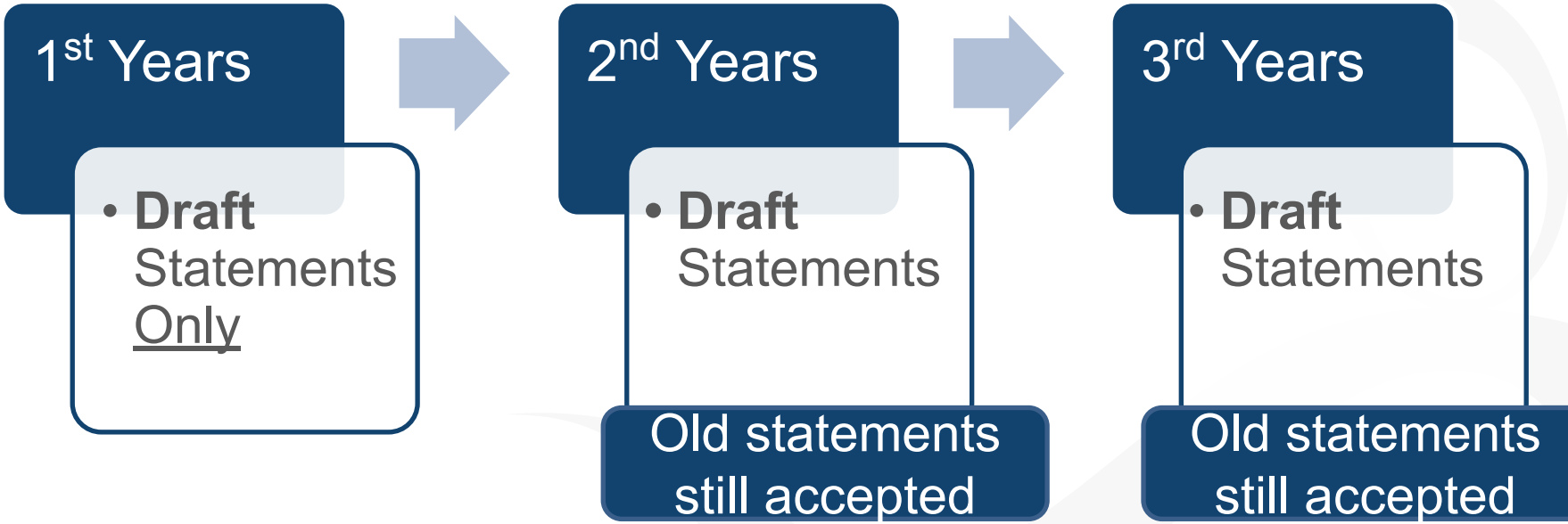
Phase 5: Engineering Statements 2022/2023



PDST
Professional Development Service for Teachers | An tSeirbhís um Fhorbairt Ghairmiúil do Mhúinteoirí

Junior Certificate School Programme
Blackrock Education Centre, Kill Avenue, Dún Laoghaire, Co. Dublin
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Supporting teachers and students within the Junior Certificate School Programme

Draft Engineering Statements

The following statements comprise draft statements developed with input from a number of practicing Engineering teachers in JCSP schools. They are offered as one possible model that teachers may use to approach the new Junior Cycle Engineering Specification. They will be adjusted over time based on feedback from teachers in JCSP schools.

The new Engineering Specification may be accessed in full at www.curriculumonline.ie.

In addition, support for teaching of the Junior Cycle Specification may be accessed through the Junior Cycle for Teachers (JCT) Technologies team at www.jct.ie.

It is important to note that the statements below offer a sample approach for the creation of Junior Cycle Engineering statements. They do not cover all of the learning outcomes which are expected to be taught in the new junior cycle course.

November 2021

An Roinn Oideachais
Department of Education

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I can understand the procedures, materials and processes in Engineering

Engineering

Statement Code: ENJC1

Student: Name Surname

Class: Class

I can

I have begun ☐☐☐ | I am working on this ☐☐☐ | I can ☐☐☐

This has been demonstrated by my ability to:

1.	State the classroom rules and daily routines e.g. tidying my workstation at the end of class	☐	☐ ☐
2.	Use hand tools and machines correctly and safely	☐	☐ ☐
3.	Look after my project and store it in the correct place	☐	☐ ☐
4.	Identify common engineering materials such as metals and plastics	☐	☐ ☐
5.	Explain where common engineering materials such as metals and plastics are used in everyday life	☐	☐ ☐
6.	Select a material to manufacture a product based on its properties	☐	☐ ☐
7.	Secure a workpiece properly and use the drill correctly	☐	☐ ☐
8.	Select a suitable tool for cutting a material and use it correctly	☐	☐ ☐
9.	Identify various engineering joining methods such as nuts and bolts, rivets, solder and adhesives	☐	☐ ☐
10.	Explain the reason why a joining method was chosen for an every day object e.g. joining wires, meccano sets	☐	☐ ☐
11.	Identify various electronic components and symbols	☐	☐ ☐
12.	Select appropriate finishes for materials such as filing, polishing or painting	☐	☐ ☐

Reflecting on my learning...

One thing I did well... Text here

Text here

One thing I did to improve... Text here

Text here

I really enjoyed... Text here **because...** Text here

Text here

I can research, design and manufacture in Engineering

Engineering

Statement Code: ENJC2

Student: Name Surname

Class: Class

I can

I have begun ☐☐☐ | I am working on this ☐☐☐ | I can ☐☐☐

This has been demonstrated by my ability to:

1.	Carry out both primary and secondary research	☐	☐ ☐
2.	Compare old and new technologies, such as a scooter and an e-scooter, and explain the differences between them	☐	☐ ☐
3.	Investigate if the design and manufacture of a household item is environmentally friendly	☐	☐ ☐
4.	Read and use a working drawing	☐	☐ ☐
5.	Transfer measurements from a working drawing onto a piece of material	☐	☐ ☐
6.	Make a part using a working drawing	☐	☐ ☐
7.	Suggest an improvement to a given item e.g. game controller, mouse, headsets, gaming chair	☐	☐ ☐
8.	Identify various mechanisms and use in a project	☐	☐ ☐
9.	Bend a material accurately to a given angle	☐	☐ ☐
10.	Solder an electronic circuit using at least 3 electronic components	☐	☐ ☐
11.	Use coding software to program a mechatronic system	☐	☐ ☐
12.	Complete a part or project to a high quality finish by filing, polishing or painting	☐	☐ ☐

Reflecting on my learning...

One thing I did well... Text here

Text here

One thing I did to improve... Text here

Text here

I really enjoyed... Text here **because...** Text here

Text here

I can communicate my understanding of Engineering concepts

Engineering

Statement Code: ENJC3

Student: Name Surname

Class: Class

I can

I have begun ☐☐☐ | I am working on this ☐☐☐ | I can ☐☐☐

This has been demonstrated by my ability to:

1. Create a 2D sketch to show my first design ideas ☐☐☐
2. Create a 3D sketch to show the steps towards my final design ☐☐☐
3. Produce a working drawing of a part(s) of a project using drawing equipment or CAD software ☐☐☐
4. Analyse an object and list the materials and steps involved in making it ☐☐☐
5. Make a model using various materials such as card, paper or foam ☐☐☐
6. Use engineering terms when annotating/labelling drawings and sketches ☐☐☐
7. Present information to others using any appropriate media ☐☐☐
8. Develop my communication skills using digital technologies ☐☐☐
9. Work as part of a group or team to develop social and team-building skills ☐☐☐
10. Reflect on the quality of my work ☐☐☐
11. Examine my completed project(s) and list possible improvements ☐☐☐
12. Explain the choice of materials and the steps taken to make my project ☐☐☐

Reflecting on my learning...

One thing I did well... Text here

Text here

One thing I did to improve... Text here

Text here

I really enjoyed... Text here **because...** Text here

Text here