

Sample Unit of Learning

This resource was developed as part of a Graphics webinar which aired on the 1st of April 2020 and can be viewed on jct.ie within the CPD supports tile under the elective workshops tab.



Webinar Link:

https://www.jct.ie/technologies/cpd_supports_graphics_elective_workshops

This webinar entitled “*Graphics in Action*” focused on how two teachers developed a unit of learning with a focus on the rationale as a lens to move forward. Throughout the webinar the teachers involved discuss the thought process which explored the teaching and learning of the unit.

What is included in this PDF?

1. Sample unit of learning

Included is the sample unit of learning developed by the teacher. Throughout the webinar this plan is developed to emulate the planning process that the teachers went through when developing the unit.

A big thank you to the teachers involved for making these resources available to the JCT4 team.

Note: It is recommended that you watch the webinar in conjunction with using this resource to contextualise the resource and make a better connection between how the plan was developed.

Consider the age, stage and prior learning of the students.

What learning do we want to focus on?

Explore both the strands and elements when choosing learning outcomes.

Identify the learning outcomes for your unit of learning.

Identify the key learning for students using action verbs to support your thinking.

Consider how we will assess and report evidence of learning

Develop ideas for how students could experience this learning.

How will I know they are learning?

Using your own classroom context, what methodologies and resources will support students in experiencing the learning outcomes.

Ensure assessment aligns with the learning outcomes and their action verbs



AGE AND STAGE:

First year students, Term 2

PRIOR LEARNING:

Polygons, freehand sketching, introduction to SolidWorks, Orthographic projection.

FOCUS OF LEARNING:

Physical Modelling – Rationale.

Promoting Creativity innovation, group work, Exploration and construction of 3D artefact.

EXPLORE STRANDS AND ELEMENTS:

2D, 3D, Applied Graphics and Communicating

CHOSEN LEARNING OUTCOMES

3.6 develop design ideas/solutions through modelling and prototyping using a variety of media

2.9 communicate the progression of ideas/thinking during the course of an activity using a variety of media

1.8 communicate the progression of ideas and thinking during the course of an activity using a variety of media

2.8 construct a 3D representation of an artefact or abstract idea using a variety of media and methods

KEY LEARNING

Task: With your group design and construct a cantilever out of spaghetti, cellotape and string using some aspect of the geometry of polygons.

1.8 – Show progression of ideas using images and sketches.

Action Verb: Communicate

2.9 – Progress ideas by investigating properties of 3D materials.

Action Verb: Communicate

3.6, 1.8 – Using appropriate freehand sketching show development of ideas for your 3D design.

Produce detailed orthographic views and a CAD model.

Action Verbs: Develop & Communicate

2.8 – Construct a final design within a set time as part of a team.

Action Verb: Construct

ACTION VERBS

Develop: advance a piece of work or an idea from an initial state to a more advanced state

Communicate: use visual gestural, verbal or other signs to share meaning or exchange information; interaction between sender and recipient; both work together to understand

Construct: develop information in a diagrammatic or logical form; not by factual recall but by analogy or by using and putting together information

HOW COULD STUDENTS EXPERIENCE THIS LEARNING?

Discussion/Brainstorming
Research/Investigation
Applying knowledge of polygons in design
Freehand Sketching
Orthographic projection using instruments
CAD modelling
Execution/Construction of final model

Ongoing Assessment

Teacher formative feedback throughout
Reflection and discussion

Prototypes – Fulfilling co-constructed success criteria

Summative test:

Final model using 3 materials

1. Primary Research
2. Secondary Research
3. Progression of ideas
4. Technical Drawings
5. Final model (SC)

RESOURCES

Visualiser. Camera/phone, Cad enabled computers, 3D teaching and learning models, Youtube videos, spaghetti, cellotape, twine, plastic connects(polygons), straws

METHODOLOGIES

Teacher demonstration, reflection/group discussion, modelling, design task

HOW WILL STUDENTS EXPERIENCE THE LEARNING OUTCOMES?

- Group work
- Refining techniques, transfer of skills building efficacy
- Model making; CAD and physical
- Completing co-constructed success criteria
- Evaluating their own work and the work of others.



REFLECTION

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