

DT- How can computer-aided design be used to solve practical problems?

Term: Spring 1

Unit 4 - Year 5 & 6

Duration: 6 Weeks

## Electrical systems and IT



## Computer Aided Design (CAD)



We will use the Tinkercad app to design our products

A design brief tells us how we can be successful.

## Design criteria

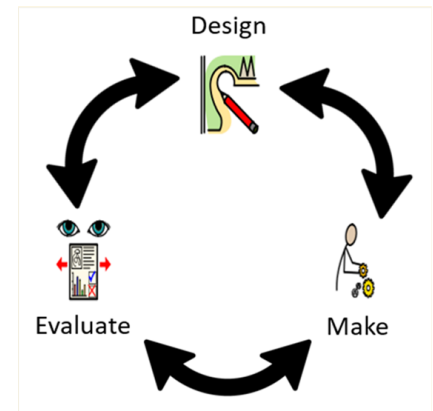
### Design brief

**Aim:** to use TinkerCad to design a flood defence system

**Client:** Torbay Council

**Purpose:** to solve the practical problem of coastal erosion

After researching the problem and looking at existing systems, we will create our own design criteria.



Dr Patrick Hanratty

The inventor  
of Computer  
Aided Design



Some examples of existing coastal defences at  
Dawlish Warren





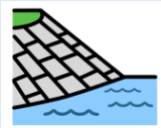


Groynes



Revetments



## Key Vocabulary

<b>Erosion</b>		When rocks and soil are worn away by water, wind, or ice.
<b>Coastal defences</b>		Structures or methods used to protect land and buildings from the sea, like sea walls or sand dunes.
<b>CAD: Computer Aided Design</b>		Computer Aided Design is the use of computer software to design and edit ideas accurately.
<b>Climate Change</b>		Long-term changes in Earth's weather patterns caused by natural and human activities.
<b>Revetment</b>		A sloping structure built to protect shorelines from waves and erosion.
<b>Rock Armour</b>		Large rocks placed along coasts to absorb wave energy and prevent erosion.
<b>Sea Wall</b>		A strong wall built along the coast to stop waves from damaging land.