

Year 5 - Geography Natural Disasters

Grade Level/s:
5

Subject/s:
Technologies, Geography

Type:
Unit Plan

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Year 5 - Geography Natural Disasters

TASK:

- Use the engineering process to design a device or object to help prevent damage to buildings or structures during a natural disaster.

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- Think of a problem which might occur after a natural disaster. Use the engineering process to design an object or device which could help to solve this problem.

Single Lesson Plan

Natural Disasters

Task: Task 1: 1-2 lessons	Activity: Students looked at a number of resources that explained the effects of natural disasters on the environment.	Resources: BTN Queensland Education powerpoints
Task 2: 2-3 lessons	Students were introduced to the engineering design process and started brainstorming ideas. Information was recorded on Explain Everything and in books.	Engineering Design Process Explain Everything
Task 3: 5-6 lessons	Create and Evaluate designs	Makers Empire software Variety of construction materials.

Downloadable files



natural_disasters-3D_printing.docx

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Natural_Disasters_Design_and_Tech_-_Explain_Everything.docx

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Curriculum

Australian Curriculum:

Develop project plans that include consideration of resources when making designed solutions individually and collaboratively (ACTDEP028)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/648ab0a9-fcc2-4b35-9ad8-fad594b56609>)

Negotiate criteria for success that include consideration of sustainability to evaluate design ideas, processes and solutions (ACTDEP027)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/26e94f5b-d29b-4364-aae9-475bf157aad1>)

Apply safe procedures when using a variety of materials, components, tools, equipment and techniques to make designed solutions (ACTDEP026)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/4bf5ec16-d3fe-46a8-a2a6-7495e977c1d7>)

Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (ACTDEP025)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/8abf34c6-43f0-48c4-a26b-5c673f37cbf0>)

Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (ACTDEP024)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/ba61fd1b-b7ed-4d58-8cb0-b7dd0dca64f9>)

Reflecting On Planned Steps To See If Improvements Can Be Made (ELBT392)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/b14f533a-5986-46c6-80ab-398cfb567a88>)

Outlining The Planning And Production Steps Needed To Produce A Product, Service Or Environment Using Digital Technologies (ELBT143)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/a5b5d5fd-d72c-4d06-a01a-b7977bcfffbf>)

Identifying When Materials, Tools And Equipment Are Required For Making The Solution (ELBT165)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/872ce6b5-deb1-4b49-9af5-b02fcdcb8ddd>)

Setting Milestones For Production Processes And Allocating Roles To Team Members (ELBT268)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/87878c78-ed26-4990-97de-76c04472692d>)

Examining The Essential Features Of Existing Processes To Inform Project Planning Including Safe Work Practices That Minimise Risk (ELBT225)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/9c675bfc-0f22-4fe3-a4ee-8a2d60e05f90>)

Evaluating Products, Services And Environments From A Range Of Technologies Contexts With Consideration Of Ethics And Sustainability (ELBT324)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/e8b18c25-8494-46f4-8edf-5bf9e35e6113>)

Considering The Criteria For Success In Relation To The Benefits And Costs Of Production Processes, The Environmental Impact, Future Use And Application, And Social Values And Ethics Of Clients (ELBT443)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/30edeabf-e43f-48ef-9b14-1c4f9fae7ac9>)

Reflecting On How Well Their Designed Solutions Ensure Safety And Wellbeing Of Users And Consumers And Meet The Needs Of Communities And Different Cultures (ELBT437)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/790ce14b-599c-49e4-8264-1f195fd1d11a>)

Evaluating The Suitability Of Materials, Tools And Equipment For Specific Purposes (ELBT176)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/b61a99c5-795d-48a0-89b8-a93ed3654796>)

Independently And Collaboratively Identifying Criteria For Success, Processes And Planning, For Example Using Visual Representations Such As A Flowchart (ELBT297)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/67e1cd1d-cb6d-447a-9275-67af6fa70de8>)

Manipulating Materials With Appropriate Tools, Equipment And Techniques, For Example When Preparing Food, Cultivating Garden Beds, Constructing Products (ELBT357)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/46e13eed-0f3d-44dc-b5a8-4b5180e53aec>)

Using Appropriate Personal Protective Equipment Required For The Use Of Some Tools And Equipment, For Example Protective Eyewear (ELBT375)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/ead2ce71-6d9b-47ef-beeb-4362bd5975a9>)

Working Safely, Responsibly And Cooperatively To Ensure Safe Work Areas, For Example The Safe Use Of Equipment When Making A Water Resistant, Floating Craft Or A Model Of An Environmentally Sensitive Outdoor Shelter (ELBT27)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/7b61b9e2-0c45-4d5c-8c56-f2f1151c7d86>)

Matching Material And Joining Techniques To The Design Intention, For Example Accurately Cutting And Sewing The Fabric Pieces To Make A Community Banner Or Joining Components To Produce An Electric Circuit (ELBT398)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/584313ca-a299-405a-bea0-378ff0c21759>)

Experimenting With Materials, Tools And Equipment To Refine Design Ideas, For Example Considering The Selection Of Materials And Joining Techniques To Suit The Purpose Of A Product (ELBT267)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/6b897f57-6cba-4870-93e0-78ef6a957b77>)

Representing And Communicating Design Ideas Using Modelling And Drawing Standards Including The Use Of Digital Technologies, For Example Scale: Symbols And Codes In Diagrams; Pictorial Maps And Aerial Views Using Web Mapping Service Applications (ELBT364)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/b45f775a-3a31-4e00-80e6-4876549184f2>)

Analysing And Modifying Design Ideas To Enhance And Improve The Sustainability Of The Product, Service, Environment Or System (ELBT365)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/059cdc15-9fbe-4dcd-ad2f-47592878e0ea>)

Developing Alternative Design Ideas And Considering Implications For The Future To Broaden The Appeal And Acceptance Of Design Ideas (ELBT200)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/adb45c63-290a-4731-abb6-99032031ac5b>)

Generating A Range Of Design Ideas For Products, Services Or Environments Using Prior Knowledge, Skills And Research (ELBT408)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/ecc70bac-4ded-4719-8922-2fe8ac3055fd>)

Investigating How To Minimise Material Use And Manage Waste By Critiquing The Environmental And Social Impacts Of Materials, Components, Tools And Equipment (ELBT2)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/0e4889d9-1297-47bc-b70a-ff9d32be08b8>)

Testing A Range Of Materials, Components, Tools And Equipment To Determine The Appropriate Technologies Needed To Make Products, Services Or Environments, For Example A Moving Vehicle (ELBT376)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/f7955d4f-a1ff-4b70-ab36-433928a1c400>)

Identifying The Importance Of Complementary Parts Of Working, Everyday Systems By Deconstructing The Components, Structure And Purpose Of Products, Services Or Environments (ELBT69)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/95651eea-698e-417c-a35e-dee42b90939d>)

Investigating Designed Solutions From Around The World To Make Suitable, Quality Decisions That Meet The Design Brief, Challenge Or Scenario (ELBT97)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/1bf47f61-4046-463c-9528-cf522bdddc8e>)

Exploring The Steps Involved In The Process To Satisfy A Design Brief, Need Or Opportunity (ELBT34)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/3ca02564-9519-46fc-b438-ee1c74fc9c>)

Design and Technologies Processes and Production Skills

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/180e9771-f4e6-4153-9a91-75d144cc424e>)

Investigating A Current Local Planning Issue, For Example, Redevelopment Of A Site, Preservation Of Open Space Or Subdivision Of Farming Land, Exploring Why People Have Different Views On The Issue, And Developing A Class Response To It (ELBH369)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/8403ed4b-c53f-4519-bf1d-f4d49d994fd6>)

Examining How The Use Of The Space Within Their Local Place Is Organised Through Zoning (ELBH639)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/a4082a3f-bb1f-4a50-a484-45d1abd66466>)

The influence people have on the human characteristics of places and the management of spaces within them (ACHGK029)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/24231622-34a9-43f9-9825-b48bd8c9e5b3>)

Researching How The Application Of Principles Of Prevention, Mitigation And Preparedness Minimises The Harmful Effects Of Bushfires Or Flooding (ELBH739)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/6f90dff1-6dc0-43bb-9844-032b608c33cd>)

Explaining The Impacts Of Fire On Australian Vegetation And The Significance Of Fire Damage On Communities (ELBH588)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/7ed11637-9f46-4789-b6df-6ab3d829fb77>)

Mapping And Explaining The Location, Frequency And Severity Of Bushfires Or Flooding In Australia (ELBH551)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/f3eab30-9306-46e5-97b9-8666f21994a8>)

The impact of bushfires or floods on environments and communities, and how people can respond (ACHGK030)

link (<http://rdf.australiancurriculum.edu.au/elements/2014/09/64b130d8-f271-4969-954a-cbe6b8103647>)
