Managed Project, Term 3 2023

Sustainable Communities: Teacher Guide

Thank you for signing your class up for the Makers Empire Managed Project.

This term we are exploring ways that we can use the world's resources in more sustainable ways in our everyday lives. Students will learn about ways to help reduce waste by reusing and recycling by completing our Sustainable Communities Challenge Course.

This course aligns with UN Sustainable Development Goals: #11 Sustainable Cities and Communities and #12 Responsible Consumption and Production.

Outline

Before
Download the Teacher Guide, watch the webinars and take care of your basic admin.

Week 1
Teachers introduce students to Makers Empire 3D and aim to complete in-app Basic Training tutorials.

Weeks 2 – 7
Students use Makers Empire 3D to work through the in-app Sustainable Communities Challenge Course.

Weeks 7 – 8
Students review each other's work and make final iterations to their final design before submitting their work as part of a virtual showcase.

After
Students and teachers completed an online survey.

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What is the Sustainable Communities Challenge Course?

This Challenge Course is accessed through the Makers Empire 3D app. Through purpose-made video content, students are introduced to the concept of sustainable communities, and sustainable practices regarding the use of resources (rethink, reduce, refuse, repair, reuse & recycle). Students respond to the video content by participating in in-app quizzes and design tutorials related to the information shared. The Challenge Course concludes with a design thinking project which challenges students to identify an opportunity to use resources within their school in more sustainable ways.

The Sustainable Communities Challenge Course consists of the following ten activities:

	Challenge Course Activity
1	A video introducing the concept of sustainable communities.
2	A quiz – related to the content in Video #1
3	A pro-training tutorial- making a seed planter box with drainage holes
4	A video exploring the actions of rethinking the ways we use and consume resources; repair broken items rather than throwing them out and replacing them; and reducing waste.
5	A quiz- related to the content of Video #2
6	A pro-training tutorial- fixing broken objects. Attaching handles etc.
7	A video exploring the actions of refusing products we don't need; reusing items rather than throwing them out; and recycling resources and items.
8	A quiz- related to the content of Video #3
9	A pro-training tutorial- designing a recycling bin
10	Posing the design thinking challenge: Design something that will help your school community use resources in more sustainable ways. How will you take action to rethink, repair, reduce, refuse, reuse or recycle?

How does the Sustainable Communities Challenge Course address the Australian Curriculum?

The Challenge Course addresses the **Australian Curriculum Cross Curriculum Priority of Sustainability**:

1. Students will have increased awareness and understanding of the interdependent and dynamic nature of resources and systems that support life on Earth and our collective wellbeing.

2. Students will understand how individual and community actions impact the sustainable use of resources.

3. Students will reflect on their community's use of resources and design actions that will lead to a more sustainable future.

4. Students will apply problem-solving and design thinking methodologies to develop solutions for the more sustainable use of resources in their communities.

The Challenge Course is also aligned to **Australian Curriculum Science and Design and Technologies for Years 3-6**.

Curriculum Learning Outcomes:

1. Students recognise that some resources are renewable while others are unrenewable and that the Earth's resources change over time as a result of natural processes and human activity. (ACSSU075)

2. Students explain how materials and resources can be used for different purposes and change in observable ways. (ACSSU046, ACSSU074, ACSSU077, ACSSU095)

3. With guidance, students identify questions that can be investigated scientifically and make predictions about scientific investigations. (ACSIS053, ACSIS064, ACSIS231, ACSIS232)

4. With guidance, students plan and conduct scientific investigations to answer questions and solve problems related to the use of resources. (ACSIS054, ACSIS065, ACSIS086, ACSIS103)

5. Students explain how scientific knowledge is used to solve problems and inform personal and community decisions. (ACSHE051, ACSHE062, ACSHE083, ACSHE100)

6. Students are able to design accurate, innovative 3D models to scale using Makers Empire 3D modelling software. (ACTDEP016, ACTDEP026)

7. Students investigate and analyse factors that impact on a designed solution to a problem related to the sustainable use of resources, including social, ethical, and sustainability considerations. (ACTDEK010, ACTDEK019)

8. Students critique needs and opportunities to design a solution to a problem related to the sustainable use of resources, including the development of design

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briefs and selection of appropriate materials, tools and systems. (ACTDEP015, ACTDEP025)

9. Students develop, modify and communicate design ideas to address an authentic problem or issue related to the sustainable use of resources. (ACTDEP015, ACTDEP025)

10. Students create prototypes of their design ideas, develop tests to assess the suitability of their project ideas. (ACTDEP016, ACTDEP026)

11. Students evaluate their designs against design brief criteria and respond to feedback from peers, teachers, industry experts, or community stakeholders. (ACTDEP017, ACTDEP027)

12. Students work collaboratively to develop project plans and design solutions that meet the provided design briefs. (ACTDEP018, ACTDEP028)

What will happen next?

You will receive an email with:

1. A link to pre-recorded webinars explaining:
   a. how to get started your students started with Makers Empire and the Sustainable Communities Challenge Course,
   b. curriculum links, and
   c. how to monitor and assess student progress through the course.
2. Instructions on how to install the Makers Empire 3D app on school devices.
3. Tips on how to get support throughout the Term 3 Managed Pilot.

Need a hand?

Contact us any time at info@makersempire.com

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