

# Learning at Home

## Teacher Guide



Makers Empire

# Learning at Home: Teacher Guide

Dear Teachers,

Thanks for downloading this guide. We've made it as easy as we can for you to engage your students in Makers Empire 3D while they are unable to attend school.

We hope that by providing families with entertaining and educational activities to try at home we will be able to lessen the burden on parents, carers and teachers; while keeping students happy, engaged and productive.

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In this guide:

1. [Getting set up for new teachers](#)
2. [Getting set up at home](#)
3. [Finding and sharing Makers Empire's curriculum-aligned Design Missions](#)
4. [Helping students excel](#)
5. [Creating and sharing your own Design Missions](#)
6. [More resources and activities](#)

# 1. Getting set up for new teachers

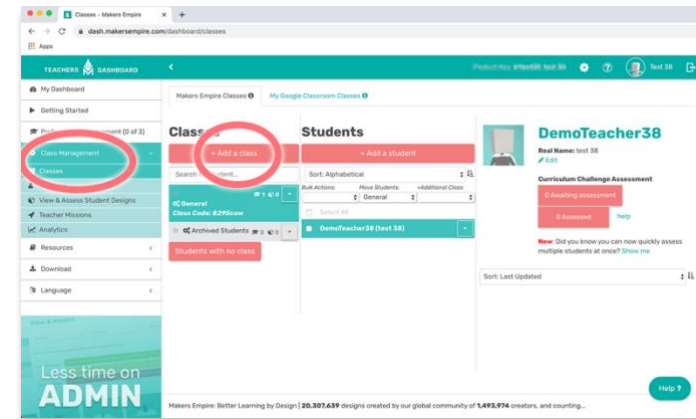
If you are **already using Makers Empire at your school**, you can skip to the next section, [Getting set up at home](#).

If you're new to Makers Empire (or would like a refresher), read on.

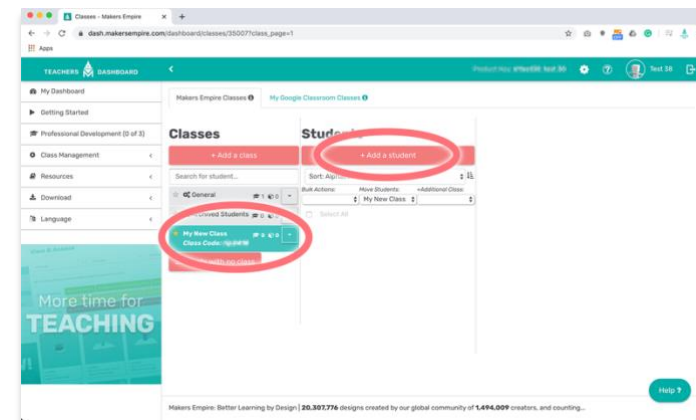
You can do a lot with Makers Empire, but right now we want to help you get set up and engaging with your students while they're learning from home ASAP.

## Part 1. Set up your Teacher Dashboard (30 mins)

1. [Sign up](#) for an extended FREE trial of Makers Empire. Follow the prompts to create your account.
2. You will see a welcome message asking about how you'd like to begin your trial, ignore this step for now and click the **X** on the top right to close the dialogue box.
3. Use the navigation menu on the left of screen to go to **Class Management > Classes**.
4. Click **Add a new class**. Give your class a name, select the grade, leave the class type set to "Home" and click **Save**.
5. Click on your newly named class to open your class list. To add a student, click **Add student** and follow the prompts to create a user account for your student. You can do this one-by-one, or you can [upload a .CSV file](#) with your class list, or use Google Classroom.



Add a class

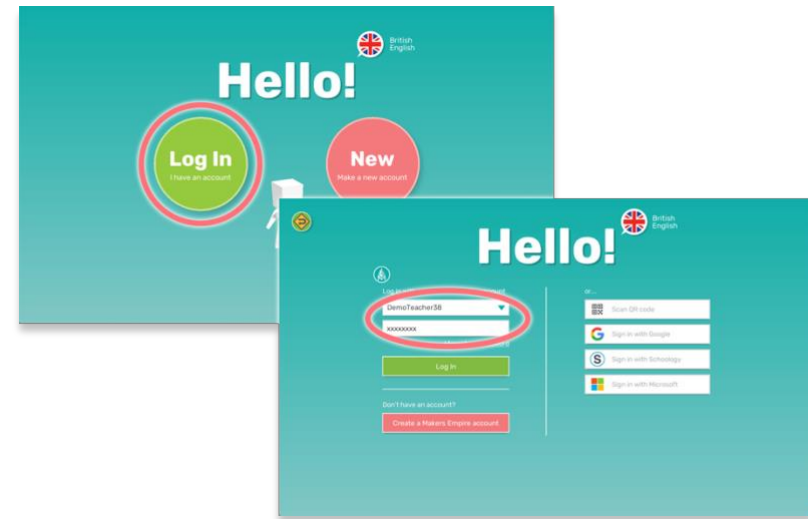


Add students

# 1. Getting set up for new teachers (continued...)

## Part 2. Quickly familiarize yourself with the Makers Empire 3D app (20 mins)

1. [Download](#) the Makers Empire 3D app. Open the app and **Log in** using the username and password you chose in Part 1. Step 1.
2. Follow the prompts to complete the **Training Lab** tutorials. You don't need any prior experience with 3D design, but it'll help to know the basic Makers Empire tools.



Log in



Click the door to enter Training Lab

# 2. Getting set up at home

To be able to engage with your students online using Makers Empire, you'll need your students to use the accounts you created for them.

## Help families get set up at home

1. Log in to your Teacher Dashboard and go to **Class Management > Classes**.
2. Download a list of all your students' login details. Click the **downward arrow icon** to the right of your class' name. Select **Username & Password List** from the options.
3. Using your preferred method of communication, send these instructions to each of your students:

Hi *(real name)*,

Good news! We're going to be using Makers Empire 3D while you're learning from home. It's a really fun way to learn about 3D design and practise problem solving.

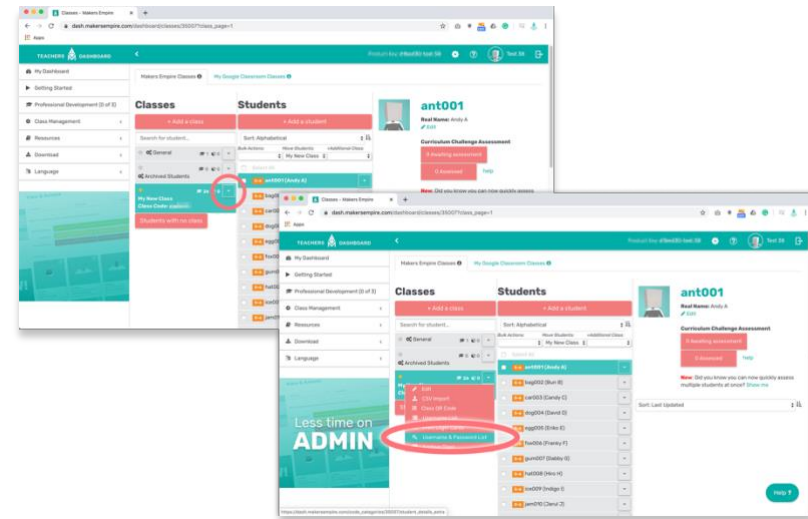
For our first lesson, you need to:

1. [Download](#) the Makers Empire 3D app. It is free. Ask an adult for help if you need.
2. **Log in** to Makers Empire 3D using these details:

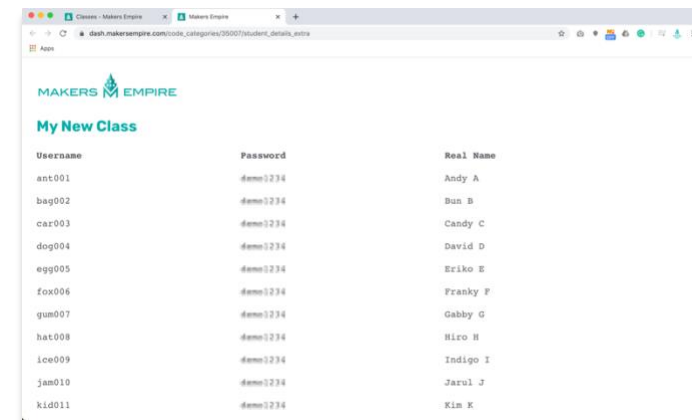
Username: *(student's username)*  
Password: *(student's password)*

3. Go to the **Training Lab** to learn how to use Makers Empire 3D.

This [Learning at Home - Parents & Carers' Guide](#) will help adults learn more about using Makers Empire 3D.



Click the arrow for more options



Username & Password list

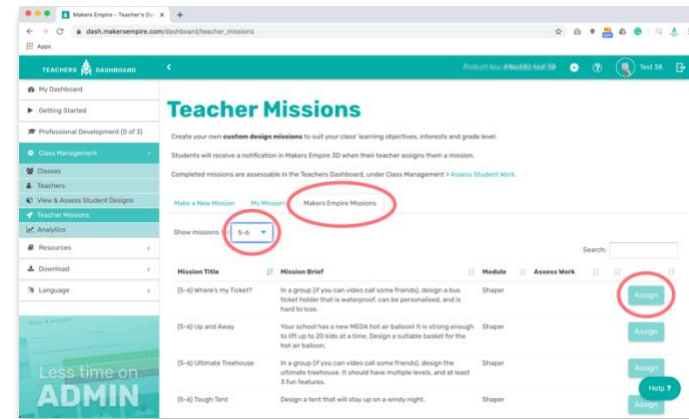
# 3. Finding and sharing Makers Empire's curriculum-aligned Design Missions

Once you and your students are set up, logged in to Makers Empire 3D, and have completed the tutorials in the Training Lab, there is a lot they can do!

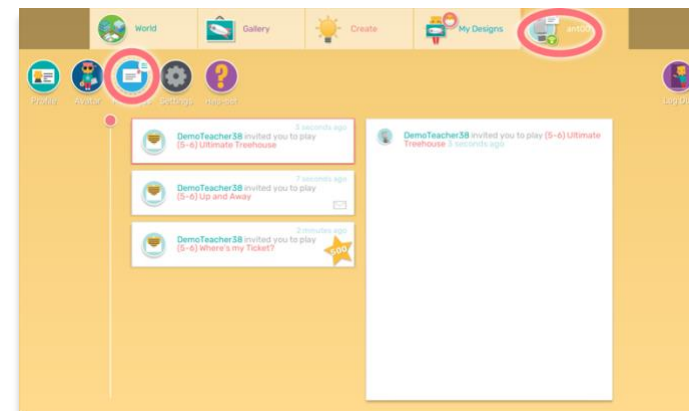
To make **things as easy as possible for teachers**, we have created 90 curriculum-aligned Design Missions to engage and challenge students. They are divided into three grade level bands, and the difficulty of the missions varies accordingly: 30 x K-2 missions, 30 x 3-4 missions, and 30 x 5-6 missions.

## To find and share a Design Mission with your students:

1. Log in to your Teacher Dashboard. Go to **Class Management > Teacher Missions**.
2. You will see three tabs: Make a New Mission, My Missions and Makers Empire Missions. Click on the **Makers Empire Missions** tab.
3. Use the **drop down menu** to select the relevant grade level for your class.
4. Find the Design Mission and click the **Assign** button. **Select the class(es)** you wish to assign the Design Mission to and click **Assign Now**.
5. Your students will receive a message in Makers Empire 3D every time you assign them a Design Mission. They can see their messages by clicking on the **ME/profile tab** (top right) and then clicking on the **Messages** (envelope) button.



Choose a mission and click Assign



Students receive assignments as messages from you in Makers Empire 3D



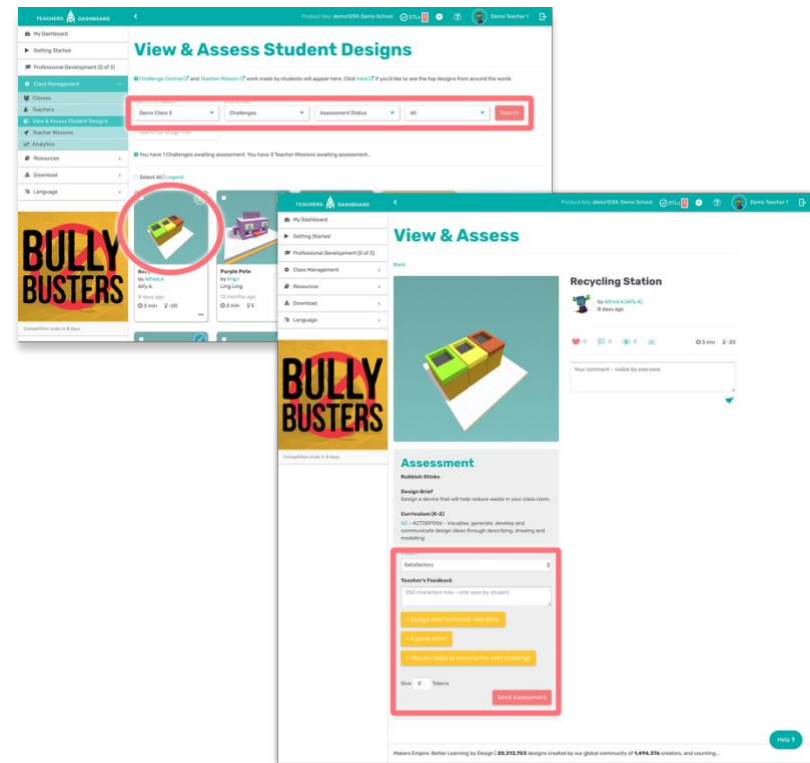
# 3. Finding and sharing Makers Empire's curriculum-aligned Design Missions

## Assessing your students' work

We understand teachers have more demands on their time now than ever. Our built-in assessment tools make assessing your students' work very efficient, and effective:

1. Log in to your Teacher Dashboard. Go to **Class Management > View & Assess Student Designs**.
2. Use the filters to find **your class**, then select: **Teacher Missions > Mission Title > (your mission name)** and then click the **Search** button, OR type the name of the Design Mission in the search field.
3. A. To **assess designs individually**, click on the preview image to open a detailed view of that design. Select the relevant achievement standard, choose a pre-filled comment or leave your own feedback for your student, then click **Send Assessment**.  
  
B. To **assess multiple designs** at once, select the tick box on the top left of all the designs **with the same achievement level**, select **Assess** from the four options, click the pre-filled feedback to send to your students and confirm **Yes send it** when prompted.
4. Your students will receive a message in Makers Empire 3D every time you assess a design, reward them [tokens](#) or comment on their work.

Our Design Missions are written by our learning team who are experienced teachers and recognised curriculum experts. All the Design Missions created by Makers Empire Team align with our [Makers Empire Design Curriculum](#), which in turn is mapped to NGSS, ISTE, Australian Curriculum, Victorian Curriculum and NSW Syllabus standards.



Individual assessment

# 4. Helping students excel

We understand that it will be very difficult for teachers to keep on top of exactly what their students are doing at home.

We also know that most parents/carers aren't professional teachers or design critics, so we created the following notes to help them discuss their child's work with them. This table is also included in the [Parents & Carers' Guide](#).

## K-2 Design Missions

Design Mission Title	Ask them...	Look for...
Terrific Toys Wrapping Up	Describe the item you chose to make a copy of. What is it made of? Is it good for the environment, and why? Does it have any other special features?	<ol style="list-style-type: none"> <li>1. At least 3 shapes,</li> <li>2. Spent at least 10 minutes on design,</li> <li>3. Uses at least 3 colours.</li> </ol>
Super Powers A Little Help	How does your design help the person who uses it? What features about your design make it especially helpful?	<ol style="list-style-type: none"> <li>1. Design resembles an everyday object,</li> <li>2. Spends at least 10 minutes on the design,</li> <li>3. Uses at least 3 shapes.</li> </ol>
Hot Chocolate Tooth Fairy	What does your design need to do? How does it achieve this? What materials or features have you used to make your design work well?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on the design,</li> <li>2. Design is rectangular or square based,</li> <li>3. Includes shapes that have been pushed into the base.</li> </ol>
Cook's Helper Toy Memories	What did you investigate? List 3 things you learnt from observing and asking questions. What did you decide would be helpful in this situation?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on design,</li> <li>2. Uses more than 2 colours,</li> <li>3. Uses at least 3 different shapes.</li> </ol>
Prickle Pickle Fun for Fish	What is the problem? What is needed to fix the problem? Does your design do a good job of fixing the problem? Why or why not?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on design,</li> <li>2. Uses more than 2 colours,</li> <li>3. Uses at least 3 different shapes.</li> </ol>
Hurrah for Hats Bedtime Ted	Show your brainstorm of at least 5 ideas and comments. Circle the ideas that made it into your final design and explain why you chose those ideas.	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on the design,</li> <li>2. Uses at least 2 colours,</li> <li>3. Uses a hollow shape or the Boolean tool.</li> </ol>



Ultimate Car My Colour	Share an image of your brainstorm, with ideas that made it into your final design circled in red. Use the RECORD button to explain the features of your design, and why it is successful.	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on the design,</li> <li>2. Includes at least 3 colours,</li> <li>3. Uses at least 3 shapes, including a round shape for eyes.</li> </ol>
Favourite Food Block Set	Explain how your design meets the design brief. What are the key features? Why did you use certain shapes and not others?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on design,</li> <li>2. Uses the correct shapes,</li> <li>3. All shapes are connected.</li> </ol>
Tidy Toys Super Skyscraper	Explain how your design meets the design brief. What are the key features? Why did you use certain shapes and not others?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on design,</li> <li>2. Design uses correct shapes stacked on top of each other,</li> <li>3. At least 2 other shapes are connected to the featured shape.</li> </ol>
Handy Hook Slurpy Spaghetti	What shapes and angles did you use for your design? Label a picture of your design, showing the shapes and angles you chose, and explain why you chose them.	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on the design,</li> <li>2. Uses a shape with a flat bottom,</li> <li>3. Shape is hollow, or Boolean tool used.</li> </ol>
Goldilocks' Chair Giant Mug	Label a picture of your design, showing where and how you have made it strong and stable. Why do you think it will be strong? Which shape are strong shapes?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on the design,</li> <li>2. design includes 2 shapes connected to the platform,</li> <li>3. All shapes are connected.</li> </ol>
Funny Face Clever Cup	How could you test if your design is successful? Describe the things your design must do to pass the test.	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on design,</li> <li>2. Uses at least 3 shapes,</li> <li>3. Uses at least 3 colours</li> </ol>
Nest Rest Boring Box	What was wrong with the original design? How does your design fix or improve the design so that it will work well?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on design,</li> <li>2. Uses rectangular prisms or cubes,</li> <li>3. Uses more than 1 colour.</li> </ol>
Marvellous Magnet Four Flavours	Before you start, write down the steps you need to do, in the order you need to do them. How many steps do you need? Did you forget any steps? Could you do it with less steps?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on the design,</li> <li>2. Uses a cone shape,</li> <li>3. Adds at least 3 other shapes to the cone shape.</li> </ol>
Crazy Shoes Buyer's Basket	Keep a BIG list of ALL the ideas your group comes up with. Then, circle which ideas made it into the final design, and explain why they were chosen. What was fun about working in a group? What was hard about working in a group?	<ol style="list-style-type: none"> <li>1. Spends at least 10 minutes on design,</li> <li>2. Uses at least 3 shapes,</li> <li>3. Uses at least 3 colours.</li> </ol>

### 3-4 Design Missions

Little Hands Sharing Space	Describe the problem you are trying to solve. Describe your design. How does it help the people who will use it? What is its most important feature?	<ol style="list-style-type: none"> <li>1. Uses at least 5 shapes,</li> <li>2. Has some shapes raised above the platform,</li> <li>3. Spends at least 20 minutes on the design.</li> </ol>
Rolling Along Fresh Fruit	How does your design help the person who uses it? What features about your design make it especially helpful?	<ol style="list-style-type: none"> <li>1. Design uses at least 4 shapes including circles or other round shapes,</li> <li>2. Spends at least 20 minutes on the design,</li> <li>3. Uses the grouping tool.</li> </ol>
Super Slide Granny's Helper	What does your design need to do? How does it achieve this? What materials or features could you use to make your design work well?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Includes a long shape for a handle,</li> <li>3. All shapes are connected.</li> </ol>
Ant Action Weary Work	What did you investigate? List 5 things you learnt from observing and asking questions. What did you decide would be helpful in this situation?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on design,</li> <li>2. Uses the duplicate tool,</li> <li>3. Makes at least 3 edits to the design</li> </ol>
Top Trophies Button Trouble	What is the problem? What is needed to fix the problem? Does your design do a good job of fixing the problem? Why or why not?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on design,</li> <li>2. uses the duplicate tool,</li> <li>3. Makes at least 3 edits to the design.</li> </ol>
Slippery Soap Holiday Treasure	Show your brainstorm of at least 10 ideas and comments. Circle the ideas that made it into your final design and explain why you chose those ideas.	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Includes a hole in the design,</li> <li>3. Design is less than 3cm long/wide.</li> </ol>
Pirate Gold Corn Capers	Share an image of your brainstorm, with ideas that made it into your final design circled in red. Use the RECORD button to explain the features of your design, and why it is successful.	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Design has a solid base with a flat bottom,</li> <li>3. Groups all shapes.</li> </ol>
T-Shirt Time Choo Choo	Explain how your design meets the design brief. What are the key features? Why did you use certain shapes and not others?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Design is exactly 50mm in length,</li> <li>3. Design creates a cavity or hollow section.</li> </ol>

Goal! Tree Climb	Explain how your design meets the design brief. What are the key features? Why did you use certain shapes and not others?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on design,</li> <li>2. Uses at least 3 different tools in the Blocker module,</li> <li>3. Includes at least 20 right angles.</li> </ol>
Quick Slide Comfy Corner	What shapes and angles did you use for your design? Label a picture of your design, showing the shapes and angles you chose, and explain why you chose them.	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Design has mostly symmetrical elements,</li> <li>3. Design includes no angles smaller than 90 degrees.</li> </ol>
Monkey Bars Standing Figure	Label a picture of your design, showing where and how you have made it strong and stable. Why do you think it will be strong? Which shape are strong shapes?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on design,</li> <li>2. Uses triangles, rectangles or cylinders,</li> <li>3. Uses grouping tool.</li> </ol>
Empty Centre Easy Keys	How could you test if your design is successful? Describe the things your design must do to pass the test.	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on design,</li> <li>2. Uses Boolean tool or hollow shape,</li> <li>3. Uses at least 4 different shapes.</li> </ol>
Forest Finding Splat!	What was wrong with the original design? How does your design fix or improve the design so that it will work well?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Makes at least 4 edits to the original model,</li> <li>3. Uses precision tools.</li> </ol>
Sandy Shoe Better Backpack	Before you start, write down the steps you need to do, in the order you need to do them. How many steps do you need? Did you forget any steps? Could you do it with less steps?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Uses on more than 5 shapes,</li> <li>3. All shapes connected.</li> </ol>
Creative Castle Our Emblem	Keep a BIG list of ALL the ideas your group comes up with. Then, circle which ideas made it into the final design, and explain why they were chosen. What was fun about working in a group? What was hard about working in a group?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Uses at least 4 shapes,</li> <li>3. All shapes connected.</li> </ol>

## 5-6 Design Missions

Fancy Gumboots Chair Choices	What two considerations did you have to keep in mind with your design? How did you address them both? Do you think your design was successful, and why?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on the design,</li> <li>2. Includes shapes located on and also above the platform,</li> <li>3. Uses the Boolean tool or hollow shapes.</li> </ol>
Light Me Up Night Light	How does your design help the person who uses it? What features about your design make it especially helpful?	<ol style="list-style-type: none"> <li>1. Design has 4 circles or other round shapes touching the platform,</li> <li>2. Spends at least 30 minutes on the design,</li> <li>3. Includes a rectangular prism.</li> </ol>
Eco Objects Dish Duty	What does your design need to do? How does it achieve this? What materials or features could you use to make your design work well?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on design,</li> <li>2. Shapes have been rotated,</li> <li>3. Makes at least 3 edits to design.</li> </ol>
Pet Perks Play Time	What did you investigate? List 5 things you learnt from observing and asking questions. What did you decide would be helpful in this situation?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on the design,</li> <li>2. Uses precision tools,</li> <li>3. Uses grouping tool.</li> </ol>
Up and Away Safe to Shore	What is the problem? What is needed to fix the problem? Does your design do a good job of fixing the problem? Why or why not?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on the design,</li> <li>2. Uses precision tools,</li> <li>3. Uses grouping tool.</li> </ol>
Super Shelter Snow Sport	Show your brainstorm of at least 10 ideas and comments. Circle the ideas that made it into your final design and explain why you chose those ideas.	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on the design,</li> <li>2. Has made at least 4 edits,</li> <li>3. Has used precision tools.</li> </ol>
Rock On Go Team!	Share an image of your brainstorm, with ideas that made it into your final design circled in red. Use the RECORD button to explain the features of your design, and why it is successful.	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on the design,</li> <li>2. Uses precision tools,</li> <li>3. Includes shapes aligned at right angles.</li> </ol>
Monster Madness Pick a Pattern	Explain how your design meets the design brief. What are the key features? Why did you use certain shapes and not others?	<ol style="list-style-type: none"> <li>1. Design includes 20 separate shapes,</li> <li>2. Design takes less than 20 minutes,</li> <li>3. Uses the duplicate tool.</li> </ol>
Amazing Arena School Map	Explain how your design meets the design brief. What are the key features? Why did you use certain shapes and not others?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on design,</li> <li>2. Uses at least 20 shapes,</li> <li>3. Uses precision tools.</li> </ol>

Creative Car Mouse House	What shapes and angles did you use for your design? Label a picture of your design, showing the shapes and angles you chose, and explain why you chose them.	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on design,</li> <li>2. Design is well connected and solid,</li> <li>3. Precision tools used.</li> </ol>
Tough Tent Stable Storage	Label a picture of your design, showing where and how you have made it strong and stable. Why do you think it will be strong? Which shape are strong shapes?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on design,</li> <li>2. Design is 150mm long,</li> <li>3. Design has vertical and horizontal components.</li> </ol>
Balance Hanger Toast Tool	How could you test if your design is successful? Describe the things your design must do to pass the test.	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on design,</li> <li>2. Uses no more than 4 different shapes,</li> <li>3. Uses precision tools.</li> </ol>
Risky Rocker Ferry Features	What was wrong with the original design? How does your design fix or improve the design so that it will work well?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on the design,</li> <li>2. Makes at least 5 edits to the original design,</li> <li>3. Comments on another design.</li> </ol>
Square Set Fast Car	Before you start, write down the steps you need to do, in the order you need to do them. How many steps do you need? Did you forget any steps? Could you do it with less steps?	<ol style="list-style-type: none"> <li>1. Spends at least 30 minutes on design,</li> <li>2. Uses precision tools,</li> <li>3. Makes at least 3 edits to design.</li> </ol>
Ultimate Treehouse Where's My Ticket?	Keep a BIG list of ALL the ideas your group comes up with. Then, circle which ideas made it into the final design, and explain why they were chosen. What was fun about working in a group? What was hard about working in a group?	<ol style="list-style-type: none"> <li>1. Spends at least 20 minutes on the design,</li> <li>2. Uses at least 4 shapes,</li> <li>3. All shapes connected.</li> </ol>

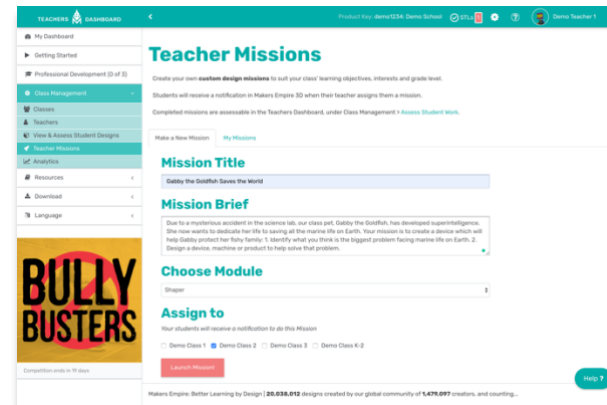
# 5. Creating and sharing your own Design Missions for students

You can create and share Design Missions for your students to try in Makers Empire 3D – it's really quick and easy!

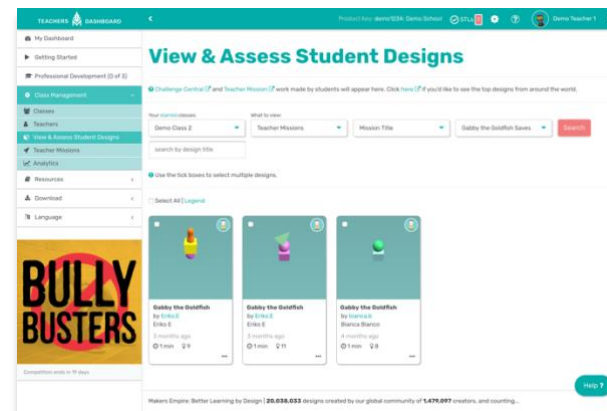
1. Log in to the **Teacher Dashboard** and to **Class Management** > **Teacher Missions**.
2. Add a title and description, choose a module and select which class(es) you want to send your mission to, then click **Launch Mission!**

Your students will see a message in Makers Empire 3D inviting them to try your mission.

Once they complete your mission you will be able to assess it in the Teacher Dashboard using the steps you learned on [page 6](#).



Teacher Missions



View and Assess Student Designs



# 6. More resources and activities

If a student completes all the curriculum-aligned Design Missions for their grade level, and you and/or their parent/carer are happy that they've completed them well, there is still lots to do in Makers Empire 3D!

You can challenge your students to:

- Try the next curriculum level up (they might need a bit of help with some words),
- Enter our monthly [Global Design Competition](#) for a chance to enter the Hall of Fame,
- Check out [Makers Empire's Youtube](#) channel and follow along with our "How to" design videos,
- Create and play 3D mazes in [Game Zone](#),
- Go shopping\* to create the most amazing avatar 'Looks', or build up your own wardrobe from scratch,
- Write their own Design Missions and challenge other users,

... and of course your child can always just jump in and **create anything they can imagine** using our Create tools (Shaper and Blocker).

*\*no real money is ever exchanged in Makers Empire 3D*