TEACHER FEATURES

The zSpace STEM applications include features for teachers only.

Create Login

By default, all logins are student logins. To create a teacher login:

1. On the Home page, click on the displayed username. This may show "New User."

2. On the Switch Users dialog, click on Log Out, then type the username and password you want. Click on Log In.

3. Type **Ctrl+Alt+T**. The dialog now displays a message confirming this is a teacher login.

4. Complete the dialog and click on Create.

Teacher Icons

Update Application
Check for a new version. If available, download and install it.

Activity Builder Create your own activities or modify an existing activity. You can add questions for your students to answer.

zView Run an activity or lesson in a zSpace STEM application and show it to your students on a separate screen.

Update Application

On the Home page, click on the icon to check if there is a new version. If a new version is available, you can choose to install it immediately or you can install it at another time.

The Install Now option downloads the latest version and prompts you to install it. It will automatically close the current version of the application for you. After installation is complete, you will need to restart the application yourself.

Activity Builder

Building a new activity includes 5 steps:

1. Set up the scene.
2. Add questions for the student to answer. You can also add hints.
3. Change the global settings for the object inventory, assorted controls, and objects.
4. Change the settings for individual objects in the scene.
5. Test and publish your activity.

You can also modify an existing activity. Refer to Modifying an Activity on page 6.

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Setting Up the Scene

Place the objects that you want to appear in the scene when the student opens the activity. You can control which objects students can add in the **Global Settings**.
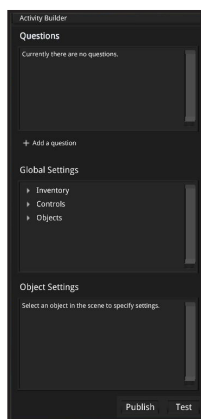
In addition to placing objects in the scene, in Newton's Park, you can also:

- Set values for individual objects in the scene, such as newtons of force.

- Add notes and attach them to objects in the scene. The notes can include text, images, audio, and video files.

- Change the gravity for the scene.

If you want to remove objects from the scene, do one of the following:

- Drag the object to the trash can (Franklin's Lab)

- Click on the object with the stylus button and press the Delete key (Newton's Park).

Tip For a less structured or more challenging activitiy, you can leave the scene empty.

Adding Questions

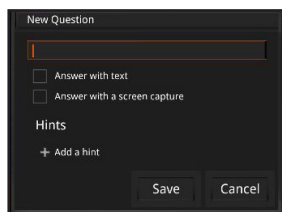You can add questions for each activity, and optionally add hints for each question.

1. Open **Activity Builder** by clicking on the icon

Tip You can use either the mouse or the stylus in the Activity Builder dialog.

When the Activity Builder is open, you cannot move objects in the scene or add new objects to the scene. To return to activity setup, click on Test.

2. Click on **Add a question.** The New Question dialog opens.

3. Type your question in the text field.

4. Check the type of answer type you want: text, screen capture, both, or none.

Tip You can use the question field to provide instructions to students instead of writing an actual question by leaving both checkboxes empty.

5. Optionally, click on **Add a hint** to add a hint. The students can choose whether to see the hint or not. Each hint is displayed separately.

6. Click on **Save.**

Changing Global Settings

You can set limits on inventory, controls, and objects overall. The global object controls set default behavior that you can override for individual objects in the scene.

1. Click on the **Inventory** heading to expand the list of options. The options will depend on the particular application.

2. To restrict the quantity the student can select, type a number in that object's field. If you leave the field blank, the quantity is unlimited. For example:
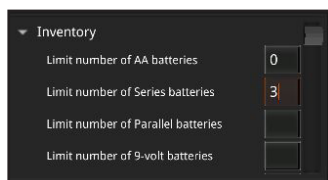
Tip The inventory quantity does not include objects already in the scene.

3. The application may also include options to hide entire categories of objects. For these settings, check the box if desired.

4. Click on the **Controls** heading to expand the list of options. These options generally apply to actions on the control bar, but they will vary depending on the application.

5. Scroll through the list and check the boxes to disable the controls you want to block.

6. Click on the **Objects** heading to expand the list of options. These options vary depending on the application.

Tip You can test your progress at any time by clicking on the Test button. You will need to reopen the Activity Builder (icon) when you are ready to continue.

Changing Object Settings

The object settings apply to individual objects you have placed in the scene.

1. Click an object in the scene. Its name appears in the Object Settings pane in the Activity Builder. For example:
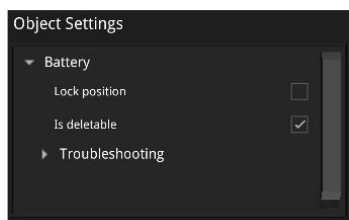
2. Be sure to click on any subheadings for the object so you can review all your options.

3. Check the desired settings or enter numeric values into the text fields. Remember that leaving a field empty allows unlimited materials of that type.

Testing and Publishing

To test your activity, click on the **Test** button. The Activity Builder closes. If you have added any questions, the Questions dialog opens.

Tip You can save your activity and finish it later by clicking on the **Save As** icon). The activity will appear in your My Saved Projects folder.

When you are ready to publish your activity, reopen the Activity Builder by clicking on the icon on the control bar. Click on the **Publish** button. Enter the activity name and the category for the activity. The activity now appears on your students' screens.

Modifying an Activity

The zSpace STEM lab includes curated activities that have been built for Franklin's Lab and Newton's Park for you. To modify one of these activities, or any activity that you created earlier, follow these steps:

1. On the Home page, select the activity you want to change from the Activities list.

2. Change the scene as desired.

3. Open the Activity Builder to edit questions and hints, change the global settings, and change in-scene object settings.

4. When you publish the activity, make sure you use a different name or category so that you do not overwrite the curated activity. If you are editing your own activity, you can either create a new copy or overwrite the previous version.
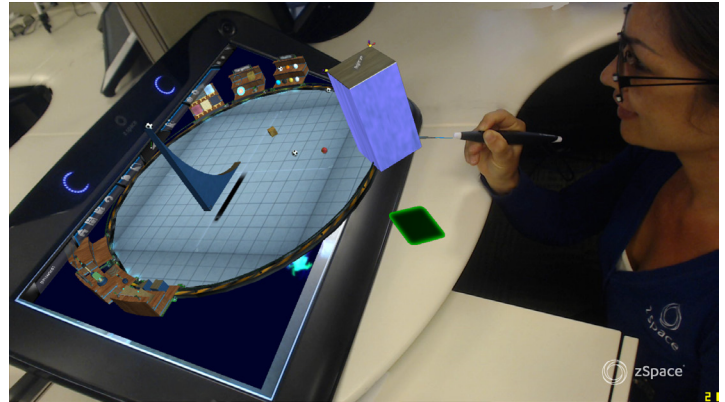
zView

Use zView for class demonstrations from a teacher station. You can project onto a second screen or record the demonstration and show it later. Although you need the 3D glasses to use the zSpace, you do not need them to view the demonstration. zView shows the 3D images in a composite 2D view.

zView provides two different modes:

- **Standard View** shows what you see on your screen. It does not require a camera. The viewpoint moves based on the user's head position.
- **Augmented Reality View** shows the application from a fixed viewpoint, without responding to head movements of the user. This mode requires a camera. Everything in the camera's frame, including the user, is captured.
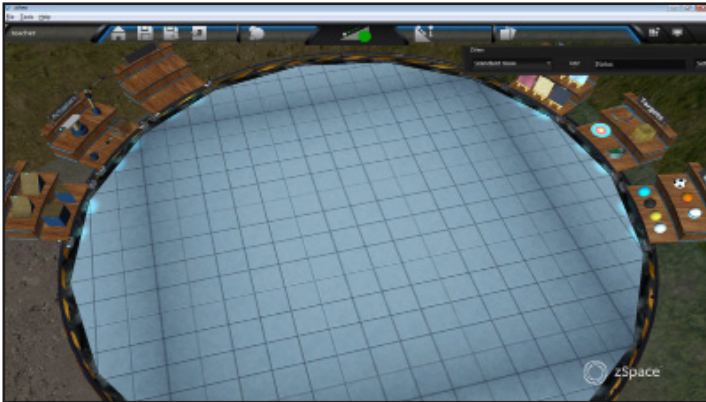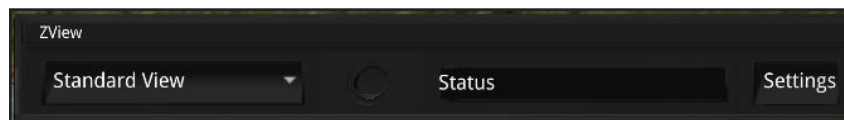

Standard View in zView

Augmented Reality View in zView

Running zView

1. Click on the 🖥 icon to start zView. The zView control bar appears.zView provides two different modes:

2. Select either Standard View or Augmented Reality View. Remember that Augmented Reality View requires a camera, which you will need to set up.

Setting up the Camera

If you use Augmented Reality View, you must set up your camera via the zView application.

1. Make sure your camera is plugged into the PC's USB port.

2. Launch the zView application from the Windows Start menu (not from the STEM application).

3. Follow the setup instructions on screen , making sure that:

    - The camera includes the user's hands or face only if desired.
    - Lighting does not cause a glare on the screen.

4. When your screen displays test patterns, adjust the camera so that at least two of the test patterns are outlined in red. For best results, all six patterns should be red.

This is what your zView window will look like. Note that each detected test pattern is outlined in red and the entire screen is outlined in green.

When setup is complete, you can leave the zView standalone application open if you plan to use it soon. Or you can close it and it will automatically restart later.

NOTE You need to set up the camera any time you move it from its original location.


Adjusting zView Settings

Except for the camera position, you can configure zView within Newton's Park or Franklin's Lab. Click on the Settings button on the zView control bar to see all your options:

- **Video Recording Format** The default value gives you the smallest file size, but at a lower resolution. If you do not like the recorded quality, you can try a higher resolution with a larger file.

- **zView Frame Rate** The default value gives you the smoothest results in your zView output, but it may hurt the performance of the application. If you select a lower frame rate, your application's performance should improve.

Recording the zView Output

You can record your zView session so that you can play it later.

- Click on the round Rec button.

- The Status field indicates your recording status. Should be fixed, but unable to verify.

- The zView window will show a red button in the upper left corner as well.

- To stop recording, click on the Rec button again. The File Browser opens.

- Find the desired file folder and save the video file. Be sure to include the .mp4 file extension.
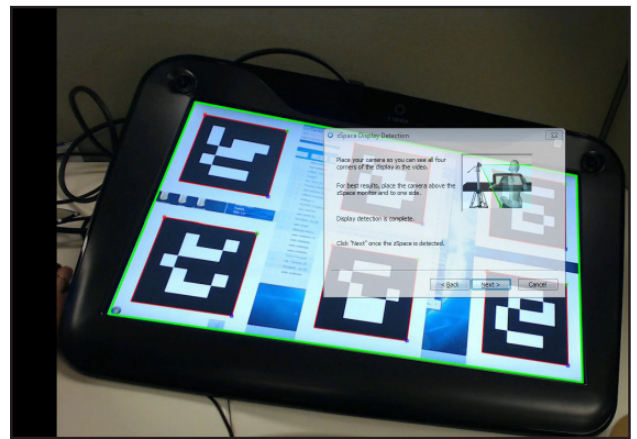
- **Overlay Position and Scale** This option is for the Augmented Reality View only. Initially, your application might not be aligned correctly in the zView application window. Use the arrows to adjust the alignment. Use the Increase and Decrease buttons to adjust the size of the application display in the zView window.
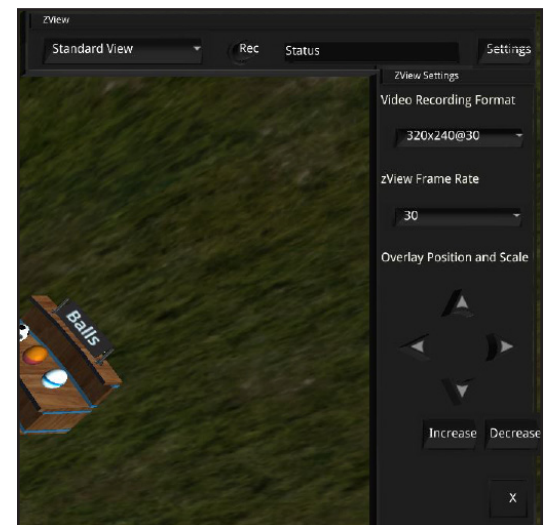
Tip Remember to play the video file and check that the quality is acceptable. You can use any media player, such as the Windows Media Player. If the quality is not acceptable, adjust the Video Frame Rate and zView Frame Rate and try again.

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