

# Jupyter for Education

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# Acknowledgement of Country

Hayward (in the San Francisco Bay Area)  
Ancestral homeland of the Ohlone people

# Teaching

# Teaching

A new world...

# Hybrid world

# Hybrid world

In-person

# Hybrid world

In-person

Remotely

# Hybrid world

In-person  
Remotely  
Self-paced



Share text

Share text

Contents

Share text

Contents  
Formatting

# Visuals

## Visuals

A thousand words...

image

Worth a...

# Interactivity...

# Interactivity...

Change the inputs...

## Interactivity...

Change the inputs...

`slider_img`



Figure: png

`draw_sample(slider.value)`

*Sample*

Figure: png



# Interactivity...

# Interactivity...

...see the new outputs

## Interactivity...

...see the new outputs

`slider_img`



Figure: png

`draw_sample(slider.value)`

*Sample*

Figure: png

# Jupyter: Quick breakdown

# Jupyter: Quick breakdown

Notebook

# Jupyter: Quick breakdown

Notebook

Kernel

# Jupyter: Quick breakdown

Notebook

Kernel

Cells

# Jupyter: Quick breakdown

Notebook

Kernel

Cells

Markdown



# Jupyter: Classical usage

# Jupyter: Classical usage

Exploration

# Jupyter: Classical usage

Exploration  
Sharing

# Jupyter: Options

# Jupyter: Options

Local

# Jupyter: Options

Local

Remote

# Jupyter: Options

Local

Remote

Or...





# JupyterLite

In the browser...

# JupyterLite

In the browser...  
Some limitations

# Convert for presentations

# Convert for presentations

HTML

# Convert for presentations

HTML

PDF

# Convert for presentations

HTML

PDF

Slides

# nbconvert

# nbconvert

Hide cells



# nbconvert

Hide cells

Hide cell output

# nbconvert

Hide cells

Hide cell output

Hide cell input

# Conversion pipeline

# Conversion pipeline

To Markdown...

# Conversion pipeline

To Markdown...  
...then pandoc

# Source-control friendly

# Source-control friendly

JSON

# Source-control friendly

JSON

Merges can be unpleasant



# Sharing

# Sharing

Supported in Source Collaboration

# Sharing

Supported in Source Collaboration  
Automatically rendered

# Reading

# Reading

Inline cells

# Reading

Inline cells

Code rendering

# Reading

Inline cells

Code rendering

Widgets acknowledging

# Exercise



# Exercise

Cells to be filled

# Exercise

Cells to be filled  
Widgets

# Verification

# Verification

Machine-checkable

# Verification

Machine-checkable  
Multiple choice

# Teacher feedback

Teacher feedback

Submit notebook

# Teacher feedback

Submit notebook

Inline submission through API



# Limitations

# Limitations

Server set-up non-trivial

# Limitations

Server set-up non-trivial  
JupyterLite still limited

# Advantages

# Advantages

Powerful tooling

# Advantages

Powerful tooling  
Evolving ecosystem

# Early days

# Early days

Make mistakes



# Early days

Make mistakes  
Learn

# Early days

Make mistakes

Learn

Share

# Early days

Make mistakes

Learn

Share

Do better

# Jupyter: Teaching for 2020s

# Jupyter: Teaching for 2020s

More visual

# Jupyter: Teaching for 2020s

More visual

More interactive

# Jupyter: Teaching for 2020s

More visual

More interactive

Powerful flows