



XVII Congresso Latino-americano  
de Software Livre e Tecnologias Abertas



Realização:



Parque Tecnológico  
Itaipu



# Como o open hardware pode impactar na educação?

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**Diana Santos**



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Latinowa e EDU

# Como o open hardware pode impactar na educação

Por Fábio Souza e Diana Santos



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<https://github.com/FBSeletronica/Palestras-Latinoware-2020>

# Fábio Souza

🔌 Engenheiro

📁 Professor

⚙️ Maker

🚢 Embarcados

🏠 Franzininho



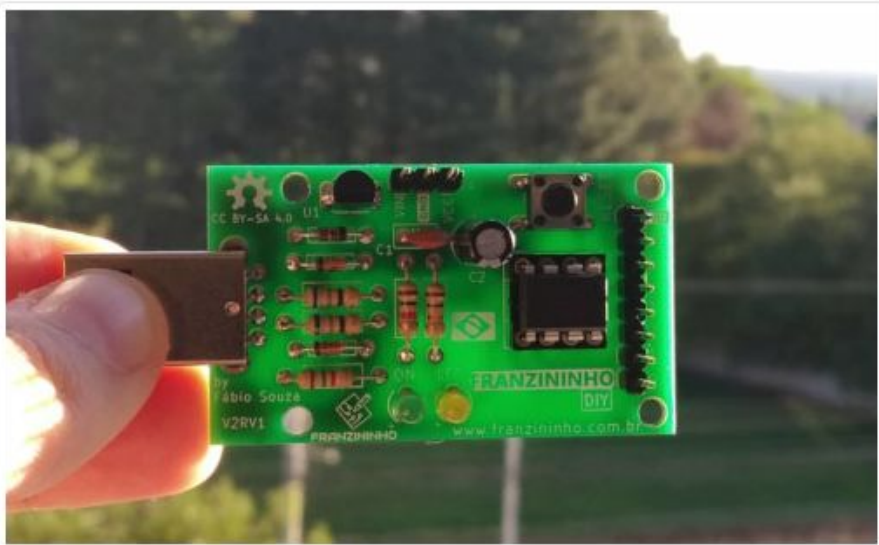
<https://fabiosouza.org/>

- Professora de Informática
- Instrutora de cursos online
- Estudante de pedagogia
- Franzininho



[about.me/dianasantos.ip](https://about.me/dianasantos.ip)

# Franzininho




O projeto Franzininho tem o objetivo de incentivar as pessoas na tecnologia através da cultura maker e do faça você mesmo.

Aliando a tecnologia com a pedagogia, construímos kits e atividades que estimulam o pensamento computacional e a vontade de fazer.

Temos atividades mão na massa para todas as idades e acreditamos que o mundo será um lugar melhor através do compartilhamento e da colaboração.





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# Movimento Maker

- Movimento ou cultura maker
- DIY – Faça você mesmo
- Criação
- Compartilhamento na internet

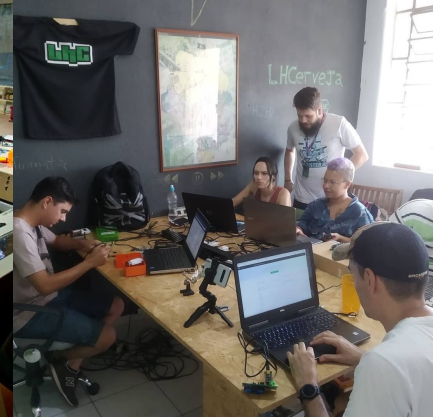
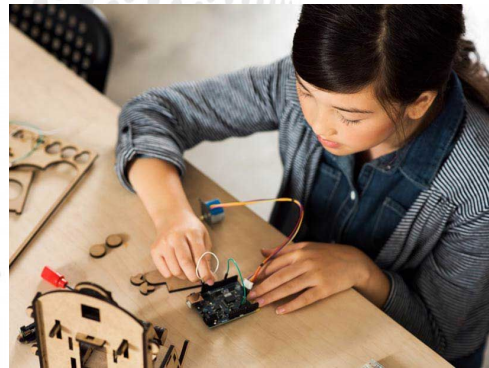
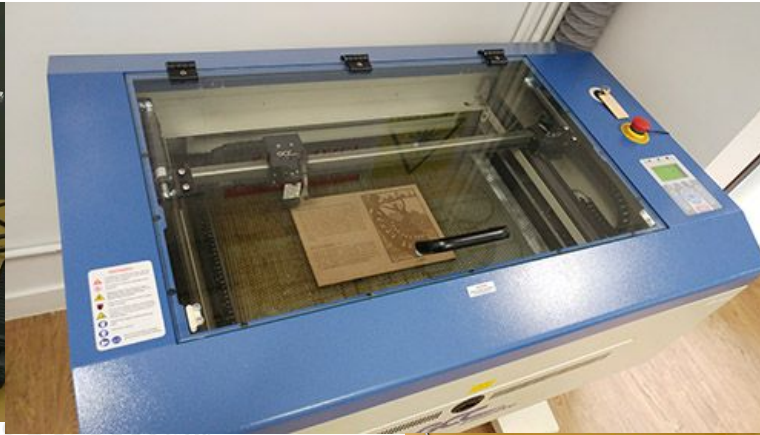
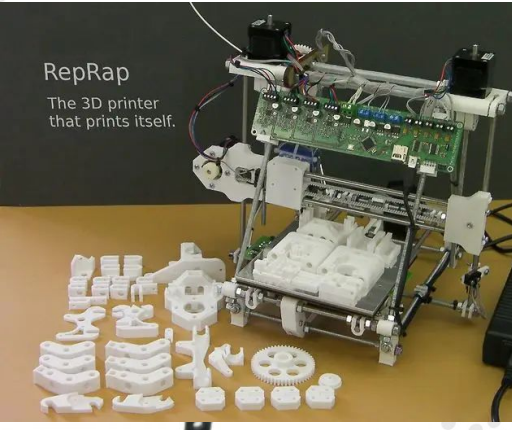




# Ferramentas e Espaços

RepRap

The 3D printer  
that prints itself.



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# O Movimento Maker na Educação

- Trabalho colaborativo
- Tentativa e erro
- Autonomia
- Saber Errar
- Atividades Lúdicas
- Experimentação
- Estimular Criatividade
- Empatia
- Questionamentos

# E como o open hardware pode ajudar?

- Projetos compartilhados entre escolas e comunidade
- Projetos feitos de forma colaborativa
- Colaboração entre alunos e professores
- Engajamento da comunidade junto a escola
- Redução do custo dos materiais
- Não ficar preso a soluções impostas por empresas



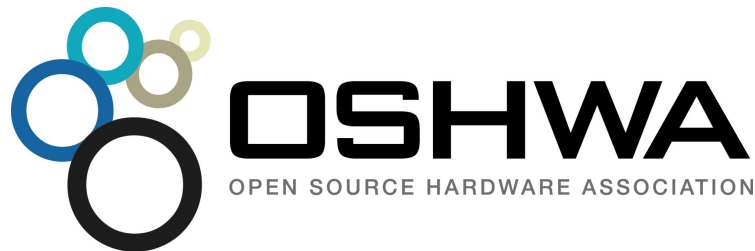
# O que é Open Hardware?

Projeto disponibilizado ao público de modo que qualquer um possa:

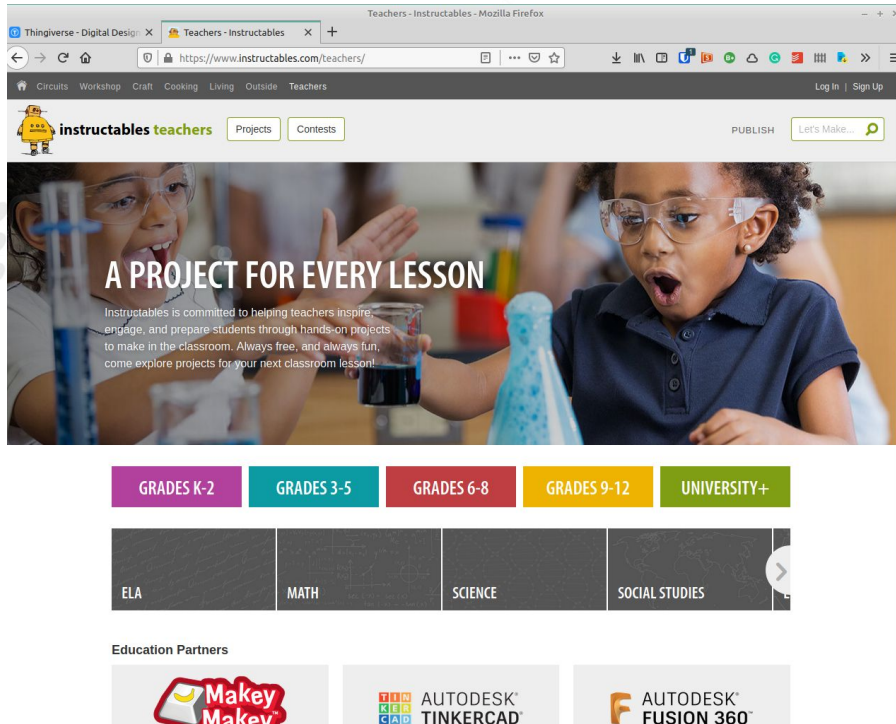
- Estudar;
- Modificar;
- Construir;
- Distribuir;
- Vender



**Esteja emocionalmente preparado para ver o seu projeto sendo copiado e vendido**



# Materiais abertos para todos



The screenshot shows the 'Teachers - Instructables' page in a Mozilla Firefox browser. The URL is <https://www.instructables.com/teachers/>. The page features a navigation bar with links for Circuits, Workshop, Craft, Cooking, Living, Outside, and Teachers. Below this is a banner for 'instructables teachers' with buttons for 'Projects' and 'Contests'. A large image of a child in safety goggles is accompanied by the text 'A PROJECT FOR EVERY LESSON'. Below the image, a paragraph states: 'Instructables is committed to helping teachers inspire, engage, and prepare students through hands-on projects to make in the classroom. Always free, and always fun, come explore projects for your next classroom lesson!'. At the bottom, there are filters for 'GRADES K-2', 'GRADES 3-5', 'GRADES 6-8', 'GRADES 9-12', and 'UNIVERSITY+'. Below these are categories for 'ELA', 'MATH', 'SCIENCE', and 'SOCIAL STUDIES'. The 'Education Partners' section includes logos for 'Makey Makey', 'TINKERCAD', and 'AUTODESK FUSION 360'.

Teachers - Instructables - Mozilla Firefox

Thingiverse - Digital Design | X Teachers - Instructables | X +

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<https://www.instructables.com/teachers/>

Circuits Workshop Craft Cooking Living Outside Teachers Log In | Sign Up

**instructables teachers** Projects Contests PUBLISH Let's Make...

**A PROJECT FOR EVERY LESSON**

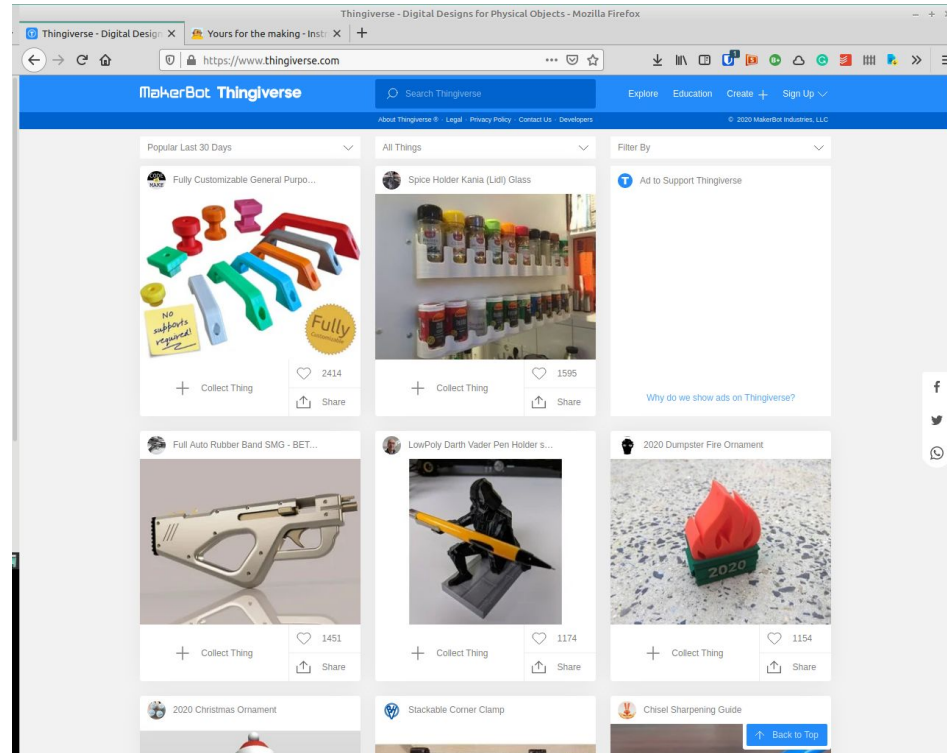
Instructables is committed to helping teachers inspire, engage, and prepare students through hands-on projects to make in the classroom. Always free, and always fun, come explore projects for your next classroom lesson!

GRADES K-2 GRADES 3-5 GRADES 6-8 GRADES 9-12 UNIVERSITY+

ELA MATH SCIENCE SOCIAL STUDIES

Education Partners

Makey Makey TINKERCAD AUTODESK FUSION 360



The screenshot shows the 'MakerBot Thingiverse' website in a Mozilla Firefox browser. The URL is <https://www.thingiverse.com>. The page features a navigation bar with links for Explore, Education, Create, and Sign Up. Below this is a search bar and a 'Filter By' dropdown. The main content area displays a grid of 3D models, including 'Fully Customizable General Purpose...', 'Spice Holder Kania (Lid) Glass', 'Full Auto Rubber Band SMO - BET...', 'LowPoly Darth Vader Pen Holder s...', '2020 Dumpster Fire Ornament', '2020 Christmas Ornament', 'Stackable Corner Clamp', and 'Chisel Sharpening Guide'. Each model has a 'Collect Thing' button, a heart icon for likes, and a 'Share' button. The page also includes a sidebar with social media links for Facebook, Twitter, and WhatsApp.

Thingiverse - Digital Designs for Physical Objects - Mozilla Firefox

Thingiverse - Digital Design | X Yours for the making - Insti | X +

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<https://www.thingiverse.com>

**MakerBot Thingiverse** Search Thingiverse Explore Education Create + Sign Up

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Popular Last 30 Days All Things Filter By

Fully Customizable General Purpose... Spice Holder Kania (Lid) Glass

Full Auto Rubber Band SMO - BET... LowPoly Darth Vader Pen Holder s... 2020 Dumpster Fire Ornament

2020 Christmas Ornament Stackable Corner Clamp Chisel Sharpening Guide

Collect Thing 2414 1451 1174 1154

Share

Ad to Support Thingiverse

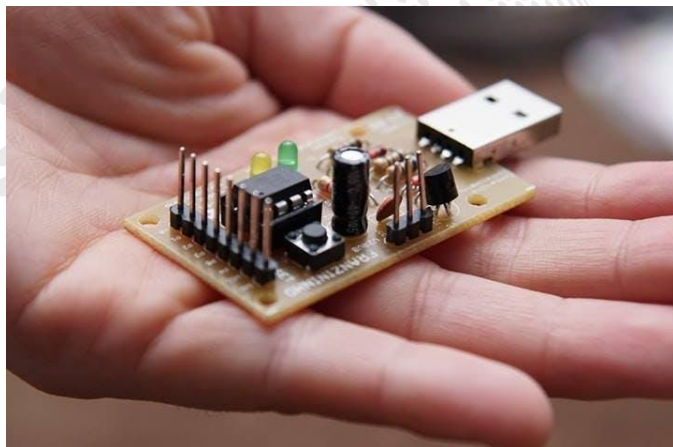
Why do we show ads on Thingiverse?

Back to Top



# Como então aproveitar tudo isso na educação?





<https://franzininho.com.br/>

# Dúvidas?

*Contato:*

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