

Enhance learning experience by using interactive content (H5P)

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H5P – HTML5 (+Javascript) Plugins

- © H5P is a plugin for existing publishing systems that enables the system to create interactive content like:
 - Interactive Videos, Presentations, Games, Quizzes and more
- © Currently supported: **Wordpress, Moodle and Drupal.**
- © Open source and free to use.
- © The solution is based on HTML 5 and Javascript.
- © Actively developed.



<https://h5p.org> and <https://h5p.com>

H5P Content types



Featured

- Interactive Video**
Create videos enriched with interactions
- Course Presentation**
Create a presentation with interactive slides
- Branching Scenario (beta)**
Create dilemmas and self paced learning

Content Types

[View all](#) [Games](#) [Multimedia](#) [Questions](#) [Social media](#)

- Accordion**
Create vertically stacked expandable items
- Agamotto**
Create a sequence of images that gradually
- Arithmetic Quiz**
Create time-based arithmetic quizzes
- Audio Recorder**
Create an audio recording
- Chart**
Quickly generate bar and pie charts
- Collage**
Create a collage of multiple images
- Column**
Column layout for H5P Content
- Dialog Cards**
Create text-based turning cards
- Dictation**
Create a dictation with instant feedback
- Documentation Tool**
Create a form wizard with text export

- Find the Hotspot**
Create image hotspot for users to find
- Flashcards**
Create stylish and modern flashcards
- Guess the Answer**
Create an image with a question and answer
- Iframe Embedder**
Embed from a url or a set of files
- Image Hotspots**
Create an image with multiple info hotspots
- Image Juxtaposition**
Create interactive images
- Image pairing**
Drag and drop image matching game
- Image Sequencing**
Place images in the correct order
- Image Slider**
Easily create an Image Slider
- Impressive Present...**
Create a slideshow with parallax effects
- Mark the Words**
Create a task where users highlight words
- Memory Game**
Create the classic image pairing game
- Multiple Choice**
Create flexible multiple choice questions
- Personality Quiz**
Create personality quizzes
- Questionnaire**
Create a questionnaire to receive feedback
- Quiz (Question Set)**
Create a sequence of various question types
- Single Choice Set**
Create questions with one correct answer
- Speak the Words**
Answer a question using your voice
- Speak the Words Set**
A series of questions answered by speech
- Summary**
Create tasks with a list of statements
- Timeline**
Create a timeline of events with multimedia
- True/False Question**
Create True/False questions
- Virtual Tour (360)**
Create interactive 360 environments
- Interactive Video**
Create videos enriched with interactions
- Course Presentation**
Create a presentation with interactive slides
- Branching Scenari...**
Create dilemmas and self paced learning
- Advanced fill the bl...**
Fill in the missing words

<https://h5p.org/content-types-and-applications>



H5P on Moodle platform

- © Installation of H5P plugin – rather easy:
<https://h5p.org/moodle>
- © Two modes of installation:
 - Selected content types installed locally on Moodle portal
 - All content types available, downloaded from H5P site
- © Possibility of keeping content on H5P hosting site
(paid migration plan to commercial **h5p.com** hosting)
- © H5P.org vs H5P.com:
<https://h5p.org/node/206472>



H5P plugin in Moodle

- ④ Just one Moodle activity to install: mod_hvp
- ④ Submodules worth adding:
 - h5p-editor-php-library
 - h5p-php-library
 - h5p-php-report
- ④ Provides integration with Moodle gradebook for grading completed activities.
- ④ Just one activity:
 - Which allows to select one of available H5P Content types
 - Each content type (kinds of „tasks“) can be further configured and edited



Interesting features

- © Each configured content type can be exported, and re-uploaded when creating new activities.
- © Support for mathematical formulas in LaTeX format (growing with time, previously not all content types supported this)
<https://h5p.org/november-2018-release-note>
- © Interactive Video features:
 - In-movie places for viewer interaction (time-limited answer, paused answer)
 - Options: allow/disallow download of video, embedding, copyright info button

Examples – Presentation

Cloudberrries

- Cloudberrries grow in alpine and arctic tundra.
- The cloudberry is also known as bakeapple, knotberry and averin, and is part of the Rose family.
- Each fruit is initially pale red, ripening into an amber color in early autumn.
- Scandinavia has strict rules for harvesting cloudberrries. Sweden even has a section for regulating this in their Ministry of Foreign Affairs.

Jump to recurrent

Cloudberrries 1 / 10

What color do ripe cloudberrries have?

amber

brown

pale red

black

Cloudberrries task 1 2 / 10

You got 2 of 3 correct

2/3

Retry Show solution

Cloudberrries task 1 2 / 10

Here's a video about growing currants!

and can handle just about any type of soil conditions.

Currant video 5 / 10

Drag colors to match the ripening stages.

Blueberries begin with a green color. ✓

As they ripen, the berries turn purple, then gradually acquire a deep blue color. ✓

You got 3 of 3 blanks correct.

3/3

Blueberry task 8 / 10

You achieved: 54%

Slide 2: What color do ripe cloudberrries have?

Slide 3: Fill in the blanks

Slide 6: Choose the correct statement.

Slide 8: Drag colors to match the ripening stages.

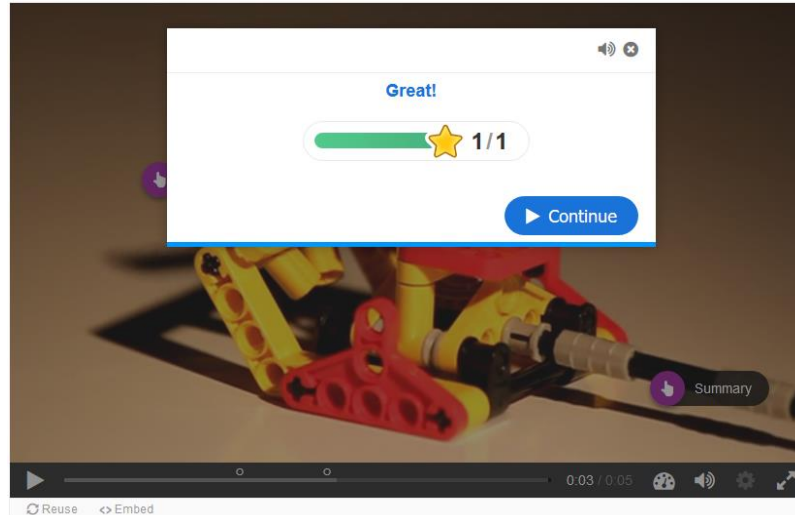
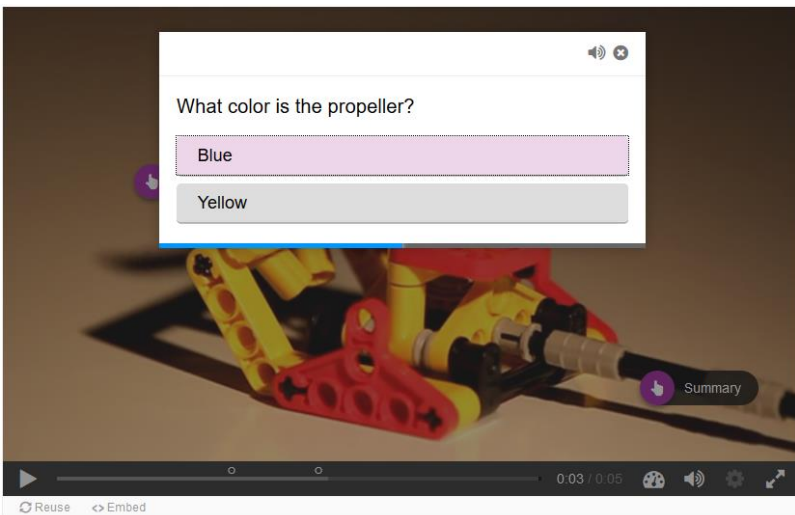
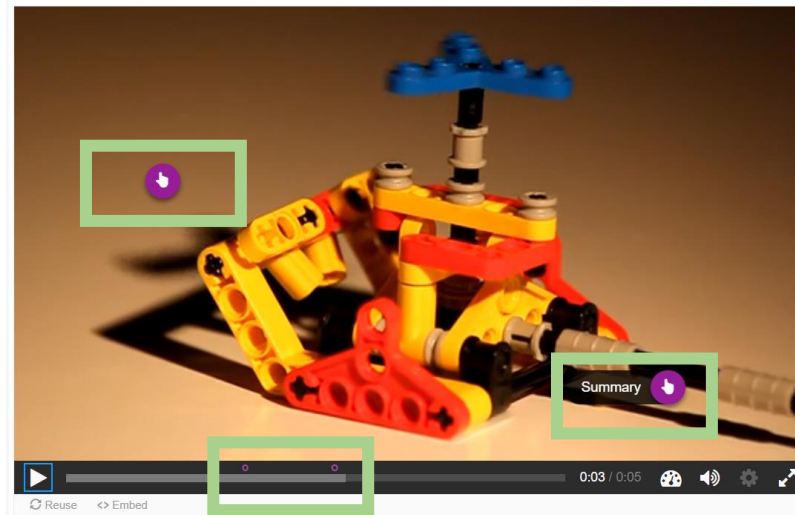
Slide 9: How many varieties of blueberry exists?

TOTAL

Show solutions Retry

Summary 10 / 10

Examples – Interactive Video



Examples – Vocabulary learning

Learn Spanish berry names

Berry names are presented in Spanish. You can turn the cards to see the correct English translations.



Arándanos azules

Turn

Card 1 of 5



Learn Spanish berry names

Berry names are presented in Spanish. You can turn the cards to see the correct English translations.



Blueberries

Turn

Card 1 of 5



Examples – Documentation



Document your project! Read more

- Document your project**
- Goals
- Plan
- Project work
- Evaluation
- Goals assessment
- Done
- Standard Page

This wizard allows you to document how you work on your project in a structured way.

In order to document your project properly, you should include the following steps:

1. Goals
2. Plan
3. Project work
4. Evaluation
5. Goals assessment

It's important you take notes during your actual project work. You'll make good use of them here.

Start by submitting the title of your project:

Start date:

Your name:

Reuse Embed

Document your project! Read more

- Document your project
- Goals**
- Plan
- Project work
- Evaluation
- Goals assessment
- Done
- Standard Page

Add goals for your project work by pressing the button below. You should describe each goal in your own words.

Add goal

Goals added: 1

Showing the possibilities of the tool

Edit Remove

Reuse Embed

Document your project! Read more

- Document your project
- Goals
- Plan
- Project work
- Evaluation
- Goals assessment**
- Done
- Standard Page

In this step you should assess how well you achieved the goals you defined for the project.

Showing the possibilities of the tool

- Did not achieve
- Achieved partially
- Achieved completely

Reuse Embed

Document your project! Read more

- Document your project
- Goals
- Plan
- Project work
- Evaluation
- Goals assessment
- Done**
- Standard Page

Well done!

On this page you can choose to export all your submitted text, as well as your goals and goal assessments.

Create document

Reuse Embed

Document your project! Export text Select all text Close

Document your project

Start by submitting the title of your project:
Test

Start date:
26.05.2019

Your name:
Joanna

Plan

What:
Something

How:
Somhowe

Reuse Embed

Practical Examples – Maths Course #1

- 1.1 Pochodna funkcji w punkcie
 - Teoria
 - Przykłady
 - Ćwiczenia interaktywne
- 1.2 Reguły różniczkowania

1.1 Pochodna funkcji w punkcie
Teoria

POCHODNA FUNKCJI JEDNEJ ZMIENNEJ

Rozdział 1.1
Pochodna funkcji w punkcie

Teoria

Interaktywne wideo

$v = \frac{ds}{dt}$

$f'(x) = \cos x$

$f(x) = \sin x$

OTWARTE ZASOBY EDUKACYJNE POLITECHNIKI ŁÓDZKIEJ

Definicja
Załóżmy, że funkcja f jest określona na pewnym otoczeniu U_{x_0} punktu x_0 . Niech Δx będzie różnym od zera przyrostem zmiennej x takim, że $x_0 + \Delta x$ należy do tego otoczenia. Niech $\Delta f = f(x_0 + \Delta x) - f(x_0)$ będzie

Definicja pochodnej funkcji w punkcie

$$V(t_0) = \lim_{\Delta t \rightarrow 0} \frac{\Delta S}{\Delta t} = \lim_{\Delta t \rightarrow 0} \frac{S(t_0 + \Delta t) - S(t_0)}{\Delta t}$$

$f : U_{x_0} \rightarrow \mathbb{R}$
 $\Delta x = x - x_0$,
 $\Delta f = f(x_0 + \Delta x) - f(x_0)$

$$f'(x_0) = \lim_{\Delta x \rightarrow 0} \frac{\Delta f}{\Delta x} = \lim_{\Delta x \rightarrow 0} \frac{f(x_0 + \Delta x) - f(x_0)}{\Delta x}$$

Jeśli V to prędkość a S to droga, to w dowolnej chwili t_0 :

$S(t_0) = V'(t_0)$

$V(t_0) = S'(t_0)$

Definicja
Załóżmy, że funkcja f jest określona na pewnym otoczeniu U_{x_0} punktu x_0 . Niech Δx będzie różnym od zera

Source: <https://port.edu.p.lodz.pl/mod/book/view.php?id=1090&chapterid=717>

Przykład 1

Korzystając z definicji obliczymy pochodną funkcji $f(x) = 1 - x^2$ w punkcie $x_0 = 3$.

▲ Rozwiązanie

$$f'(3) = \lim_{x \rightarrow 3} \frac{f(x) - f(3)}{x - 3} = \lim_{x \rightarrow 3} \frac{(1 - x^2) - (1 - 3^2)}{x - 3} = \lim_{x \rightarrow 3} \frac{1 - x^2 - 1 + 9}{x - 3} =$$

$$= \lim_{x \rightarrow 3} \frac{-x^2 + 9}{x - 3} = \lim_{x \rightarrow 3} \frac{9 - x^2}{x - 3} = \lim_{x \rightarrow 3} \frac{(3 - x)(3 + x)}{x - 3} =$$

$$= \lim_{x \rightarrow 3} \frac{-(x - 3)(3 + x)}{x - 3} = \lim_{x \rightarrow 3} \frac{-(3 + x)}{1} = \lim_{x \rightarrow 3} (-3 - x) = -6$$

► Film

Przykład 2

Obliczmy pochodną jednostronnej funkcji $f(x) = |x - a|$ w punkcie $x_0 = a$, gdzie $a \in \mathbb{R}$.

► Rozwiązanie

Source: <https://port.edu.p.lodz.pl/mod/book/view.php?id=1090&chapterid=718>

Practical Examples – Maths Course #2

Ćwiczenie 1

Wskaż poprawne odpowiedzi.

Założmy, że funkcja f jest określona na pewnym otoczeniu punktu x_0 . Wówczas

$\lim_{x \rightarrow x_0} f(x) = f'(x_0)$

$\lim_{\Delta x \rightarrow 0} \frac{f(x_0 + \Delta x) - f(x_0)}{\Delta x} = f'(x_0)$

$\lim_{\Delta x \rightarrow 0} \frac{f(x_0 + \Delta x) - f(x_0)}{\Delta x} = f(x_0)$

$\lim_{x \rightarrow x_0} \frac{f(x) - f(x_0)}{x - x_0} = f'(x_0)$

★ 1/1

Ćwiczenie 2

Wskaż poprawne odpowiedzi.

Założmy, że funkcja f jest ciągła w punkcie x_0 . $f'(x_0) = +\infty$, jeżeli

$\lim_{x \rightarrow x_0} \frac{f(x) - f(x_0)}{x - x_0} = +\infty$

$\lim_{\Delta x \rightarrow 0} \frac{f(x_0 + \Delta x) - f(x_0)}{\Delta x} = 0$

$\lim_{\Delta x \rightarrow 0} \frac{f(x_0 + \Delta x) - f(x_0)}{\Delta x} = +\infty$

$\lim_{x \rightarrow x_0} f(x) = +\infty$

🔍 Sprawdź

Ćwiczenie 4

Udziel odpowiedzi na pytania.

Czy funkcja f jest różniczkowalna w punkcie x_0 ?

Tak Nie

🔍 Sprawdź

2 / 6

Practical Examples – Maths Course #3

Ćwiczenie 4

Uzupełnij:

$(\arcsin x)' =$	<input type="text" value="1/sqrt(1+x^2)"/>	<input type="text" value="1/(1+x^2)"/>	<input type="text" value="1/sqrt(1+x^2)"/>
$(\arccos x)' =$	<input type="text" value=""/>	<input type="text" value="1/(1-x^2)"/>	<input type="text" value="1/sqrt(1-x^2)"/>
$(\arctg x)' =$	<input type="text" value="1/(1-x^2)"/>	<input type="text" value="1/sqrt(1-x^2)"/>	<input type="text" value="1/(1-x^2)"/>
$(\text{arcctg } x)' =$	<input type="text" value=""/>	<input type="text" value="1/(1+x^2)"/>	<input type="text" value=""/>

0/1

[Spróbuj ponownie](#)

Ćwiczenie 5

Uzupełnij:

- $(x^3 + 2 \ln x)' = 3 \cdot x^2 + 2 \cdot \frac{1}{x}$
- $(3^x - 4\sqrt{x})' = 3^x \cdot \ln 3 - \frac{1}{\sqrt{x}}$
- $(e^x \cdot \cos x)' = e^x \cdot \cos x - e^x \cdot x$
- $(\frac{5x-1}{x^2+4})' = [(5x-1)' \cdot (x^2+4) - (5x-1) \cdot (x^2+4)'] : (x^2+4)^2$

2/8

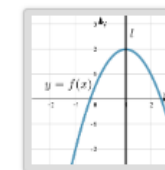
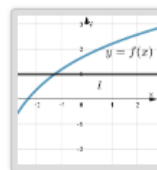
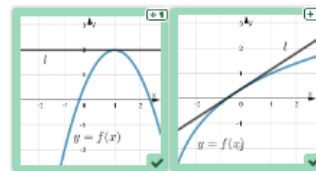
[Pokaż rozwiązanie](#)

[Spróbuj ponownie](#)

Ćwiczenie 1

Wskaż rysunki, na których prosta l jest styczna do wykresu funkcji f .

Przeciągnij i upuść rysunek w wskazanym obszarze.

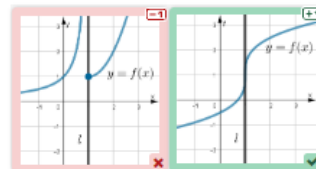


2/2

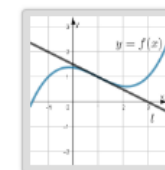
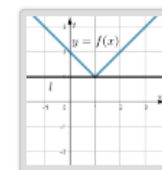
Ćwiczenie 2

Wskaż rysunki, na których prosta l jest styczna do wykresu funkcji f .

Przeciągnij i upuść rysunek w wskazanym obszarze.



Source: <https://port.edu.p.lodz.pl/mod/book/view.php?id=1090&chapterid=734>



0/2

[Powtórz](#)



Useful materials

© Content author guide





<https://h5p.org/documentation/for-authors>

© Test-drive H5P on-line (requires creation of free account)

<https://h5p.org/testdrive-h5p>



Practical task

1. Search in Google: **small mp4 example**
2. Download "**small.mp4**" file with LEGO helicopter (right-click, save as)
3. Visit <https://h5p.org/testdrive-h5p> or <http://bit.ly/rigah5p>
4. Select content type: **Interactive Video**
5. Provide Title: **Short film**
6. Add / upload video file "**small.mp4**"
7. Add interaction: **Single choice set** (drag & drop) 
8. Display time: **0:03** + **Pause video**
9. Q: **What color is the propeller?** A.1: **Blue** A.2: **Yellow**
10. Remove second question  press 
11. Confirm CAPTCHA, then press 



Interactive Video in H5P – Considerations

- ⌚ Required multimedia codecs should be supported by browser
 - Windows – typically just works
 - IOS, OS X – typically just works
 - Linux – depends on configuration, or distribution defaults
- ⌚ Real life example:
 - Fedora Linux without non-free codeds: videos didn't work 😐
 - After installation of packages with codecs: video did work 😊
- ⌚ Storage considerations:
 - the longer the video the more megabytes it takes
 - problems with doing course backups



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