Construit Script Cheat Sheet

http://jseden.dcs.warwick.ac.uk/construit

Quick Syntax

```
variable is formula;
variable is formula + formula;
variable is formula if condition else formula;
variable is [formula, formula];
variable = formula;

if (condition) {statements}
if (condition) {statements} else {statements}

when (condition) {statements}

for (variable in variable) {statements}
for (variable in formula..formula) {statements}
for (variable=number; condition; variable++)
{statements}

while (condition) {statements}

variable is formula with variable=formula;
variable is formula with variable=formula,
variable=formula;
variable is formula :: variable=formula;
```

More: https://goo.gl/j8xf9P
Grammar: https://goo.gl/synVAk

Math Functions

```
sin(number)
cos(number)
tan(number)
random(number)
randomInteger(number)
exp(number)
log(number)
max(number,number)
min(number,number)
round(number)
ceil(number)
floor(number)
sqrt(number)
abs(number)
pow(number)
sum(number)
acos(number)
asin(number)
```

More: https://goo.gl/iuJL2i

String and List Functions

```
concat(separator,list)
lowercase(string)
uppercase(string)
substitute(src,values,...)
substr(src,start,[end])
startsWith(src,contains)
splitString(src,token)
search(value,list)
sort(list)
unique(list)
tail(list)
trim(string)
```

More: https://goo.gl/iuJL2i

Further Resources

http://jseden.dcs.warwick.ac.uk/construit/?q=mce
http://construit.org

Canvas Shapes

```
Image(x,y,width,height,url)
Text(text,x,y,size,colour)
Rectangle(x,y,width,height,colour)
Circle(x,y,radius,colour)
Line(x1,y1,x2,y2,colour)
Button(name,label,x,y);
Polygon(pointlist,colour)
Div(html,x,y,width,height)
Ellipse(x,y,xradius,yradius,colour)
Slider(name,min,max,step,...)
Arc(x,y,radius,start,end)
```

More:

Construit Markdown Comments

```
# Comment here
## Heading 1
### Heading 2
# Some *italic* text
# Some **bold** text
# Inline code `a is b + c`.
# A [link](http://jseden.dcs.warwick.ac.uk)
# An image ![Figure 1](url)
# Embed a value ?(ACTIVE>variable)
#* Bullet item
#> Block quote
# --- horizontal rule
# Add [some colour]{red} to words
#! JS-Doc/Doxygen attached comment
```

More: https://goo.gl/HsM5xt

Useful Variables

```
book_width
book_height
screenWidth
screenHeight
mouseX
mouseY
mouseDown
picture
```

Searching

```
script > child
script >> allchildren
name.id(number)
name.type(when)
#hashtag
name:active
.comment(*text*)
:depends(a)
```

More: https://goo.gl/qvhrWC

Example - Drawing a Circle

```
mycircle_x is book_width / 4;
mycircle_y = 100;
radius = 30;
mycircle is Circle(mycircle_x,
    mycircle_y, radius, "red");
picture is [mycircle];
```

Tip: Use the menu bar search to lookup function documentation, find variables and more reference materials.