

## Fidget Spinner Instructions

1. Copy and paste the svg code at [steamcoded.org/lessons/Fidget.svg.txt](http://steamcoded.org/lessons/Fidget.svg.txt)
2. Draw a rectangle starting at (-1000,-1000) with a width and height = 3000  
add attribute class="bg" Hint: x="-1000" y="-1000" width="3000" height="3000"
3. Draw a circle at (500,500) with a radius of 280 and attribute class="case"  
Hint: cx="500" cy="500" r="280"
4. Draw a circle at (500,187.5) with a radius of 143 and attribute class="bg"  
add attribute transform="rotate(60,500,500)" to rotate it 60 degrees
5. Copy the circle of step 4 and paste on the next line, then change the rotation angle from 60 degrees to 180 degrees
6. Copy the circle of step 4 and paste on the next line, then change the rotation angle from 60 degrees to 300 degrees
7. Create a group element with attribute class="s1" that will contain 3 child elements  
Hint: <g class="s1"> Don't forget the closing tag </g> a couple of lines down
8. Draw a circle at (500,187.5) with a radius of 170 and attribute class="case"
9. Draw a circle at (500,187.5) with a radius of 120 and attribute class="c1"
10. Draw a circle at (500,187.5) with a radius of 60 (no class attribute).  
Note: the circle gets its style from the group element class: s1
11. Copy the entire group (all the code from steps 7-10) and paste on the next line,  
then change the group element class to s2 and  
add attribute transform="rotate(120,500,500)"
12. Copy the entire group (all the code from steps 7-10) and paste on the next line,  
then change the group element class to s3 and  
add attribute transform="rotate(240,500,500)"
13. Draw a circle at (500,500) with a radius of 135 and attribute class="c2"
14. Draw a circle at (500,500) with a radius of 110 and attribute class="c3"

## Notes

15. The <style> section of code contains definitions that are referenced by a class attribute on an element, for example class="case" references style .case  
Change the style attributes and notice the effect

## Add animation

16. Add a group element `<g>` after the rectangle element and add a closing tag `</g>` on the line before the ending `</svg>`
17. Add an `<animateTransform` element on the line after the group tag of step 15  
`<animateTransform id="a1" attributeName="transform" type="rotate" values="0,500,500;360,500,500" dur="0.5s" begin="0s;a5.end" />`  
This will rotate the fidget spinner 360 degrees in 0.5 seconds
18. Copy step 16 and paste on the next line, then change  
`id="a2" dur="0.75s" begin="a1.end"`  
This will rotate the fidget spinner 360 degrees in 0.75 seconds when animation with `id="a1"` ends
19. Copy step 16 and paste on the next line, then change  
`id="a3" dur="1s" begin="a2.end"`  
This will rotate the fidget spinner 360 degrees in 1 seconds when animation with `id="a2"` ends
20. Copy step 16 and paste on the next line, then change  
`id="a4" dur="1.5s" begin="a3.end"`  
This will rotate the fidget spinner 360 degrees in 1.5 seconds when animation with `id="a3"` ends
21. Copy step 16 and paste on the next line, then change  
`id="a5" dur="2s" begin="a4.end"`  
This will rotate the fidget spinner 360 degrees in 1 seconds when animation with `id="a4"` ends

## Notes

22. The animation `id="a1"` begins at 0s or begins when animation with `id="a5"` ends