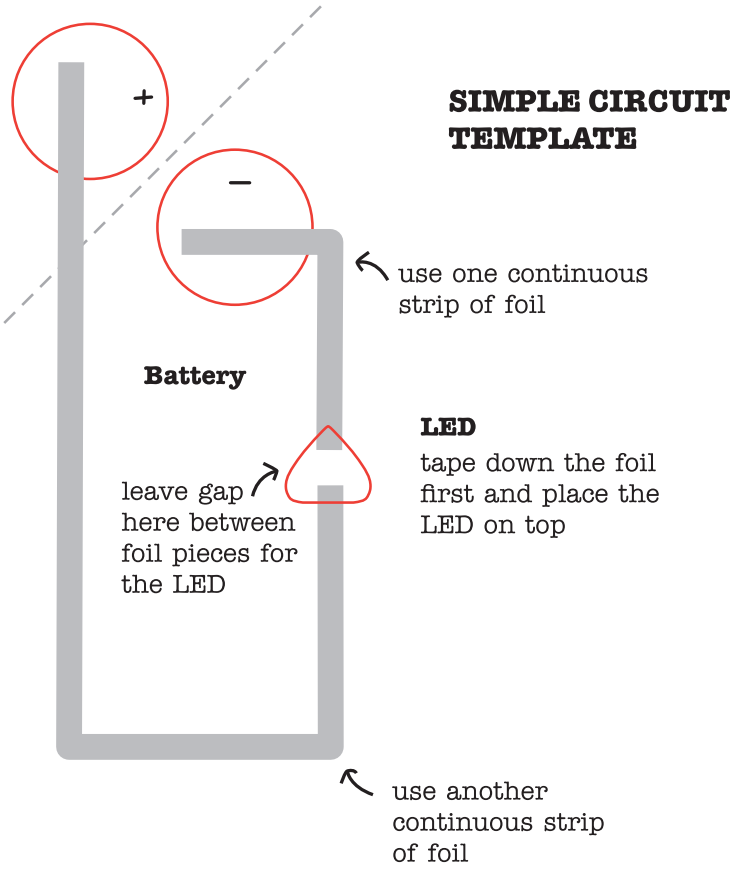
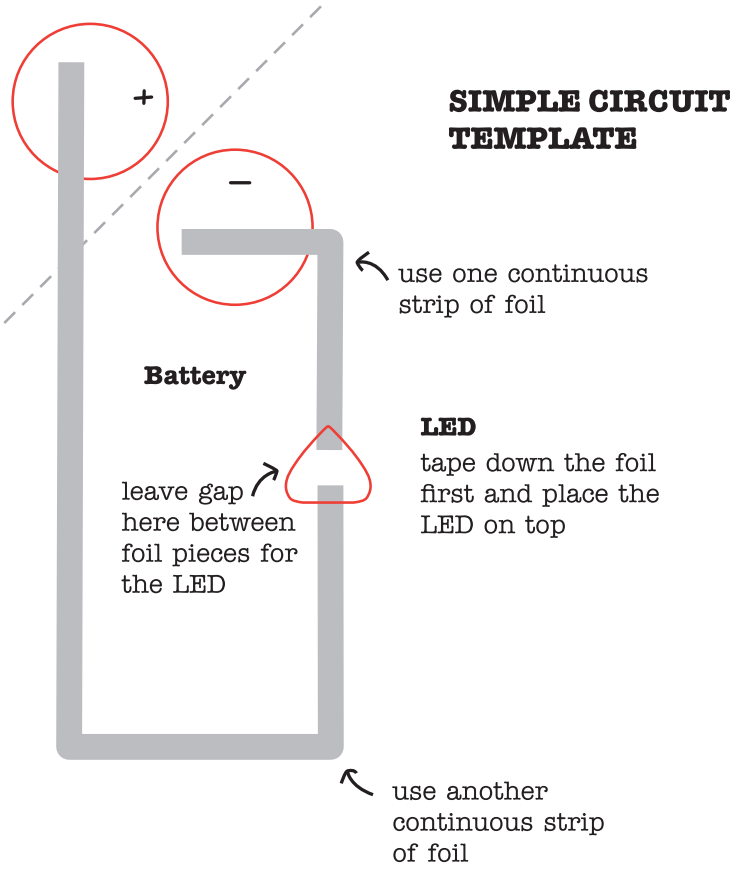
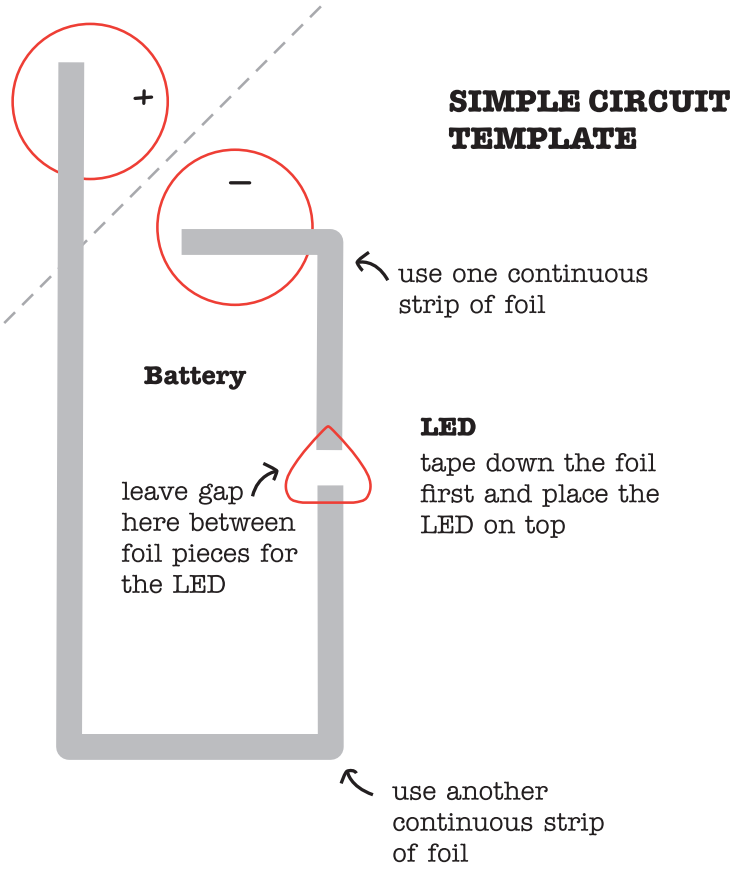

+
−
SIMPLE CIRCUIT TEMPLATE
use one continuous strip of foil
Battery
LED
tape down the foil first and place the LED on top
leave gap here between foil pieces for the LED
use another continuous strip of foil

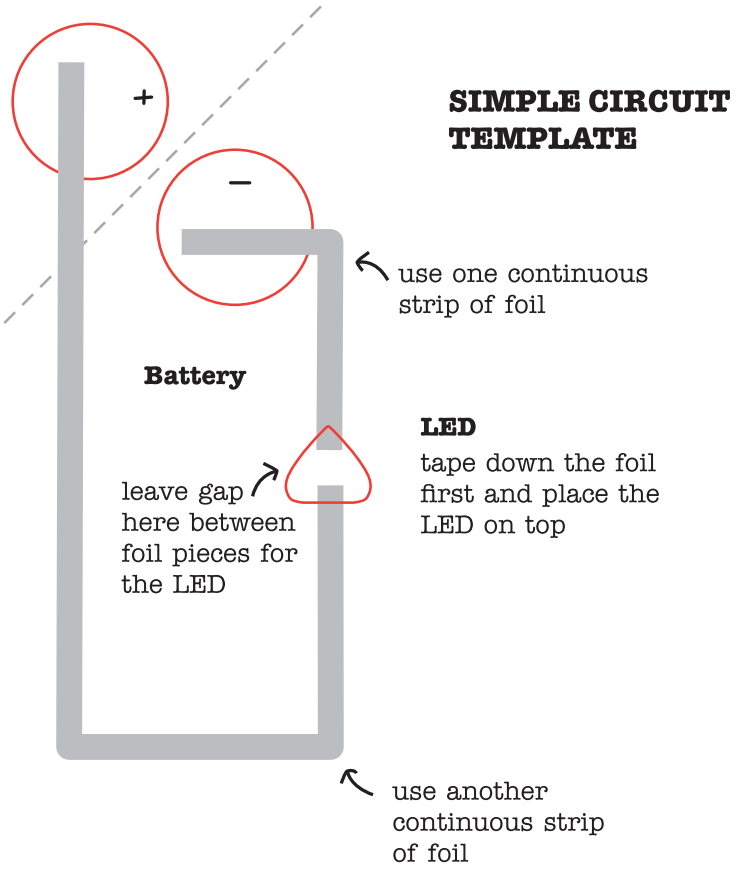
20


+
−
SIMPLE CIRCUIT TEMPLATE
use one continuous strip of foil
Battery
LED
tape down the foil first and place the LED on top
leave gap here between foil pieces for the LED
use another continuous strip of foil

20


+
−
SIMPLE CIRCUIT TEMPLATE
use one continuous strip of foil
Battery
LED
tape down the foil first and place the LED on top
leave gap here between foil pieces for the LED
use another continuous strip of foil

20


+
−
SIMPLE CIRCUIT TEMPLATE
use one continuous strip of foil
Battery
LED
tape down the foil first and place the LED on top
leave gap here between foil pieces for the LED
use another continuous strip of foil

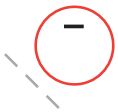
20

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

Note: *Apply the foil as a continuous piece, rather than separate pieces, even when turning corners. The adhesive on the bottom side of the foil makes a weak connection.*

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.



3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick the LED sticker onto the foil, over the footprint. The light will turn on!

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Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

Note: *Apply the foil as a continuous piece, rather than separate pieces, even when turning corners. The adhesive on the bottom side of the foil makes a weak connection.*

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick the LED sticker onto the foil, over the footprint. The light will turn on!

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SIMPLE CIRCUIT 19

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

Note: *Apply the foil as a continuous piece, rather than separate pieces, even when turning corners. The adhesive on the bottom side of the foil makes a weak connection.*

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick the LED sticker onto the foil, over the footprint. The light will turn on!

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SIMPLE CIRCUIT 19

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

Note: *Apply the foil as a continuous piece, rather than separate pieces, even when turning corners. The adhesive on the bottom side of the foil makes a weak connection.*

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick the LED sticker onto the foil, over the footprint. The light will turn on!

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SIMPLE CIRCUIT 19

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

Note: *Apply the foil as a continuous piece, rather than separate pieces, even when turning corners. The adhesive on the bottom side of the foil makes a weak connection.*

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick the LED sticker onto the foil, over the footprint. The light will turn on!

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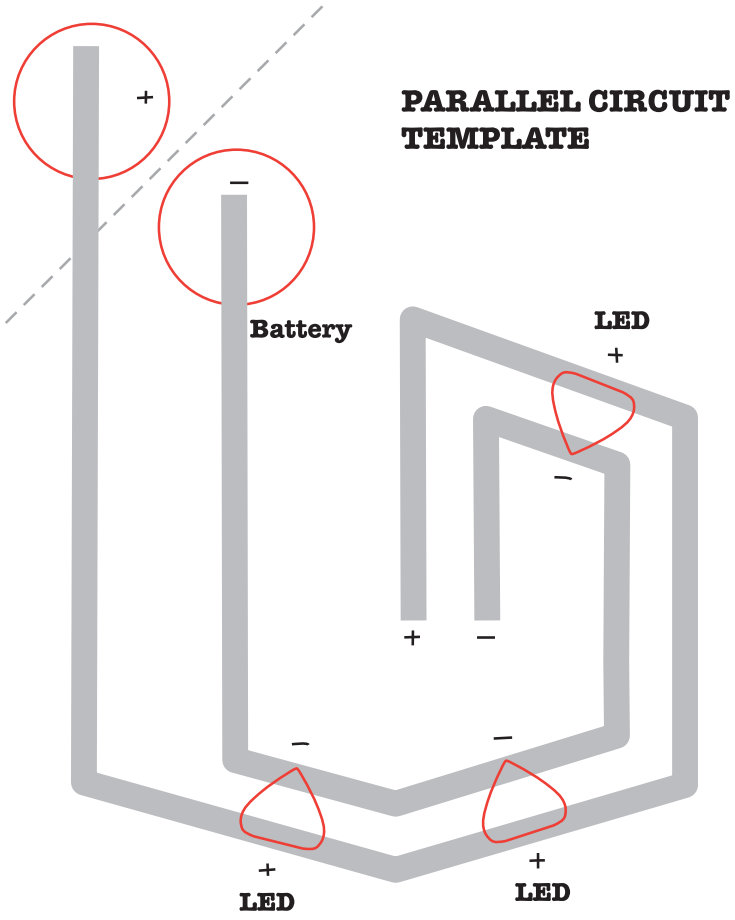
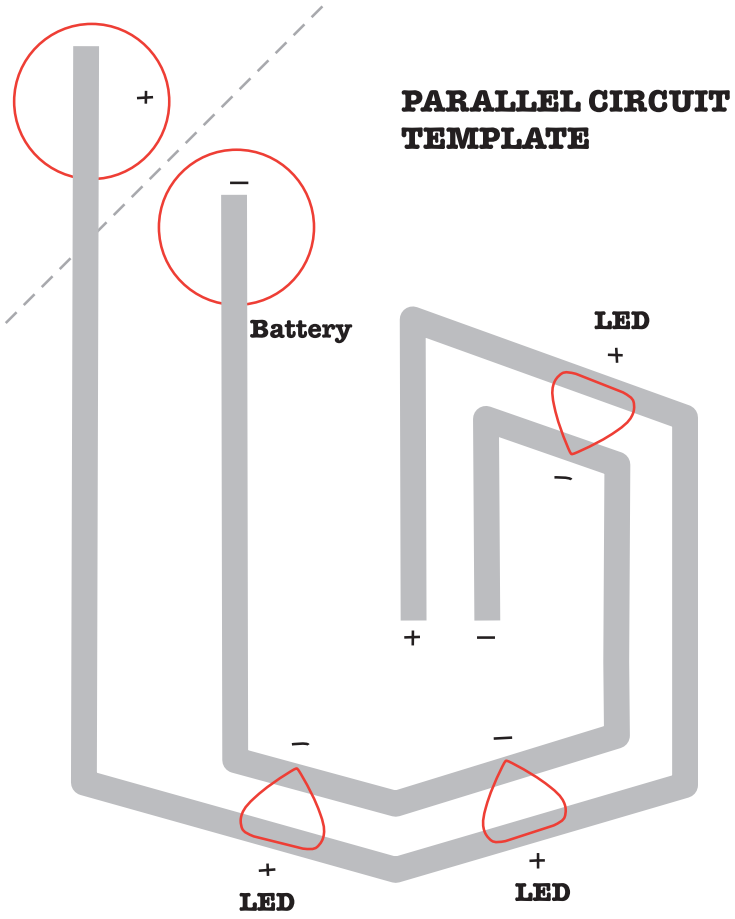
SIMPLE CIRCUIT 19


PARALLEL CIRCUIT
TEMPLATE
Battery
LED
LED
LED

34


PARALLEL CIRCUIT
TEMPLATE
Battery
LED
LED
LED

34

34

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines to create a "track" for your LED stickers. You will be able to place stickers anywhere along this track.

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick LED stickers onto the foil track, over the footprints. Choose any colors you like. All the lights will turn on!

5. Now flip to the next page. You've created stars! How would you add more stars to the constellation? Try adding another LED to your parallel circuit.

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Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines to create a "track" for your LED stickers. You will be able to place stickers anywhere along this track.

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick LED stickers onto the foil track, over the footprints. Choose any colors you like. All the lights will turn on!

5. Now flip to the next page. You've created stars! How would you add more stars to the constellation? Try adding another LED to your parallel circuit.

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PARALLEL CIRCUIT 33

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines to create a "track" for your LED stickers. You will be able to place stickers anywhere along this track.

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick LED stickers onto the foil track, over the footprints. Choose any colors you like. All the lights will turn on!

5. Now flip to the next page. You've created stars! How would you add more stars to the constellation? Try adding another LED to your parallel circuit.

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PARALLEL CIRCUIT 33

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines to create a "track" for your LED stickers. You will be able to place stickers anywhere along this track.

2. Fold the page corner along dotted line and place the battery "+" side-up over the "-" circle.

3. Fold the corner flap over, and clip the battery in place with a binder clip.

4. Stick LED stickers onto the foil track, over the footprints. Choose any colors you like. All the lights will turn on!

5. Now flip to the next page. You've created stars! How would you add more stars to the constellation? Try adding another LED to your parallel circuit.

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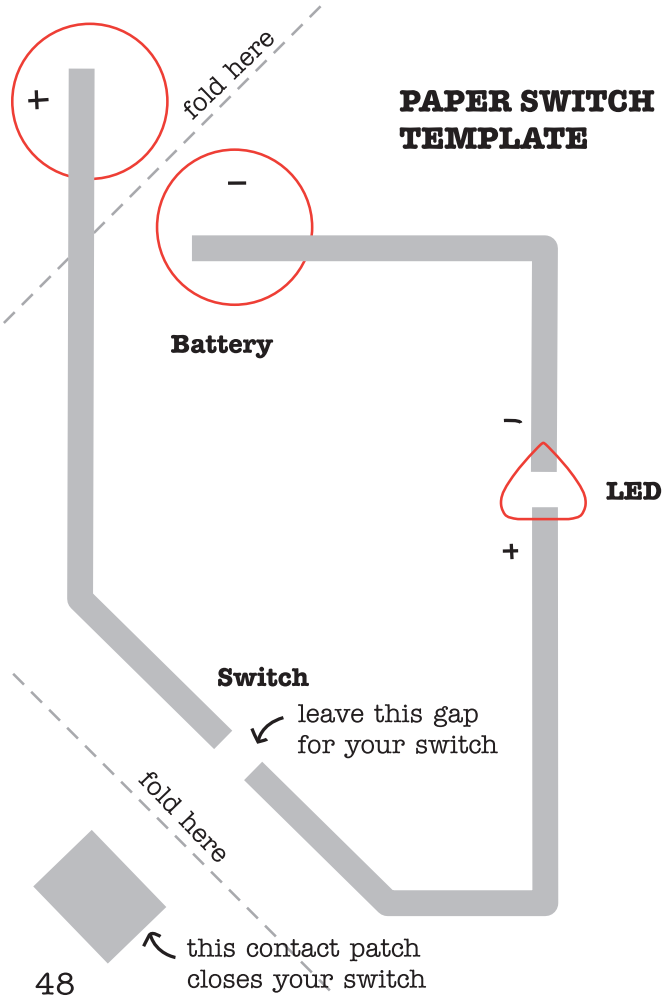
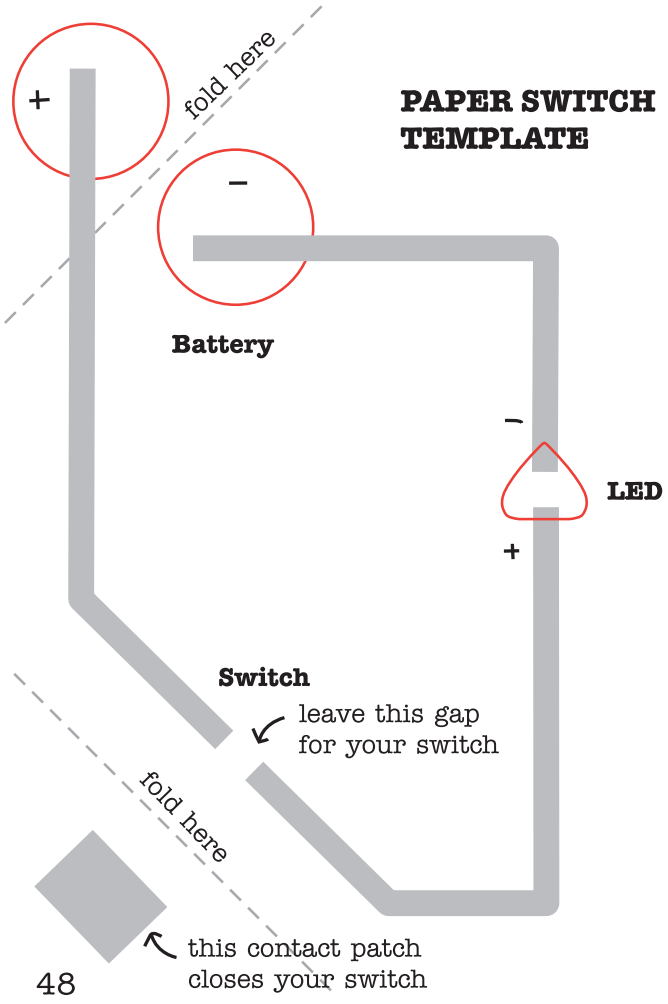
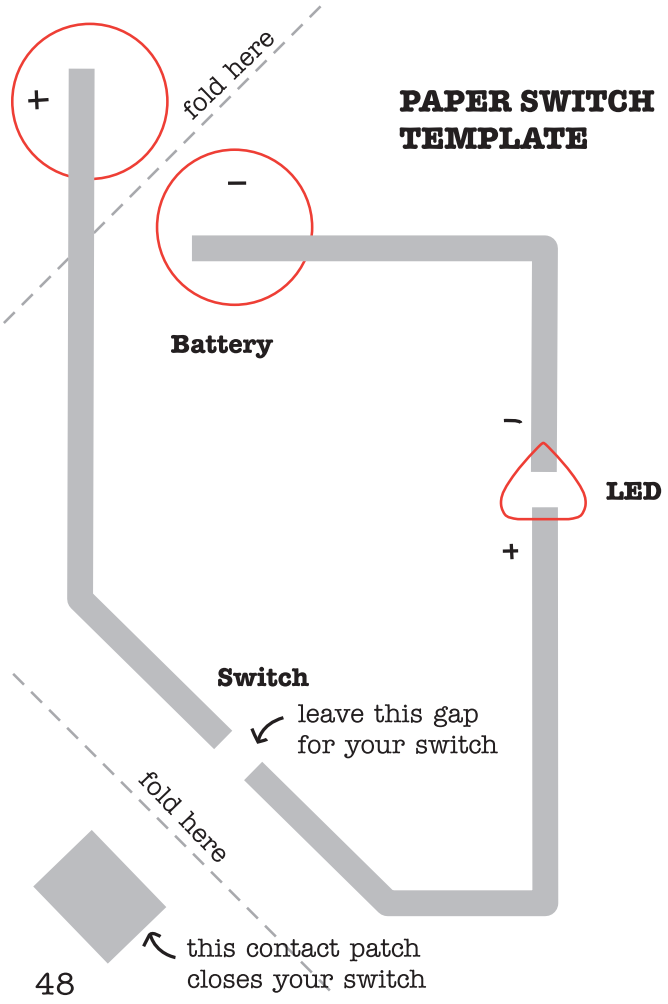
PARALLEL CIRCUIT 33


PAPER SWITCH TEMPLATE
fold here
+
−
Battery
−
LED
+
Switch
leave this gap for your switch
fold here
this contact patch closes your switch

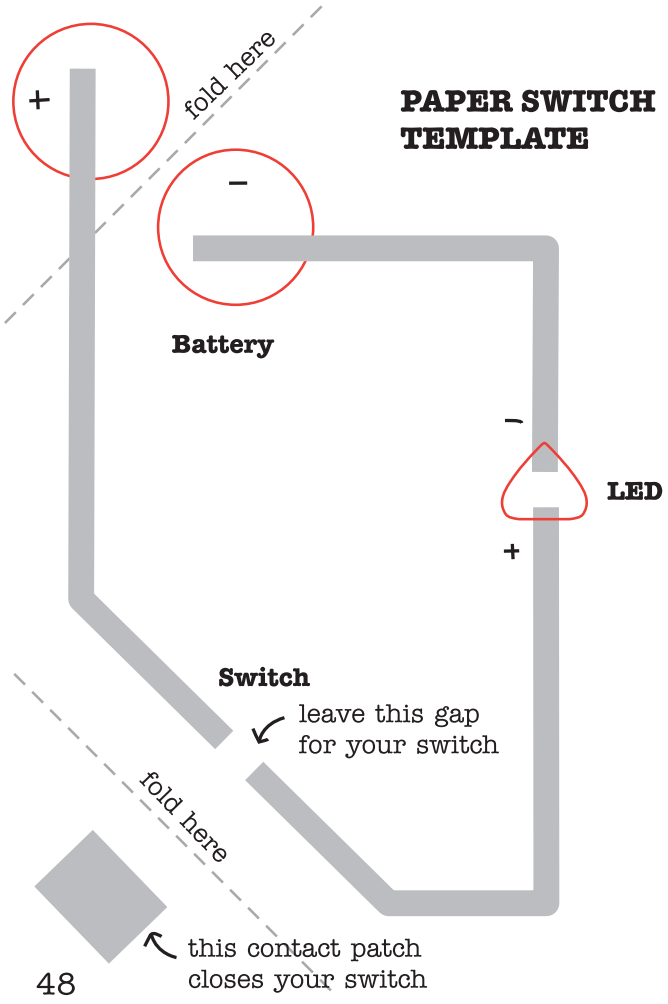
48


PAPER SWITCH TEMPLATE
fold here
+
−
Battery
−
LED
+
Switch
leave this gap for your switch
fold here
this contact patch closes your switch

48


PAPER SWITCH TEMPLATE
fold here
+
−
Battery
−
LED
+
Switch
leave this gap for your switch
fold here
this contact patch closes your switch

48


PAPER SWITCH TEMPLATE
fold here
+
−
Battery
−
LED
+
Switch
leave this gap for your switch
fold here
this contact patch closes your switch

48

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

2. Cover the lonely gray patch with conductive foil. This forms the contact of the switch.

3. Fold the bottom page corner along the dotted line so that the patch closes the gap. Congrats! You just made a switch.

4. Crease the top page corner along the dotted line and clip your battery in place with a binder clip (see previous activities for details).

5. Stick an LED sticker over the footprint. When you press down on the switch, your LED will glow!

6. Now turn the page. What happens when you press the “do not press” button? Draw it on the page!

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Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

2. Cover the lonely gray patch with conductive foil. This forms the contact of the switch.

3. Fold the bottom page corner along the dotted line so that the patch closes the gap. Congrats! You just made a switch.

4. Crease the top page corner along the dotted line and clip your battery in place with a binder clip (see previous activities for details).

5. Stick an LED sticker over the footprint. When you press down on the switch, your LED will glow!

6. Now turn the page. What happens when you press the “do not press” button? Draw it on the page!

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DIY SWITCH 47

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

2. Cover the lonely gray patch with conductive foil. This forms the contact of the switch.

3. Fold the bottom page corner along the dotted line so that the patch closes the gap. Congrats! You just made a switch.

4. Crease the top page corner along the dotted line and clip your battery in place with a binder clip (see previous activities for details).

5. Stick an LED sticker over the footprint. When you press down on the switch, your LED will glow!

6. Now turn the page. What happens when you press the “do not press” button? Draw it on the page!

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DIY SWITCH 47

Directions:

1. Turn to the template on the next page and stick foil tape over the gray lines.

2. Cover the lonely gray patch with conductive foil. This forms the contact of the switch.

3. Fold the bottom page corner along the dotted line so that the patch closes the gap. Congrats! You just made a switch.

4. Crease the top page corner along the dotted line and clip your battery in place with a binder clip (see previous activities for details).

5. Stick an LED sticker over the footprint. When you press down on the switch, your LED will glow!

6. Now turn the page. What happens when you press the “do not press” button? Draw it on the page!

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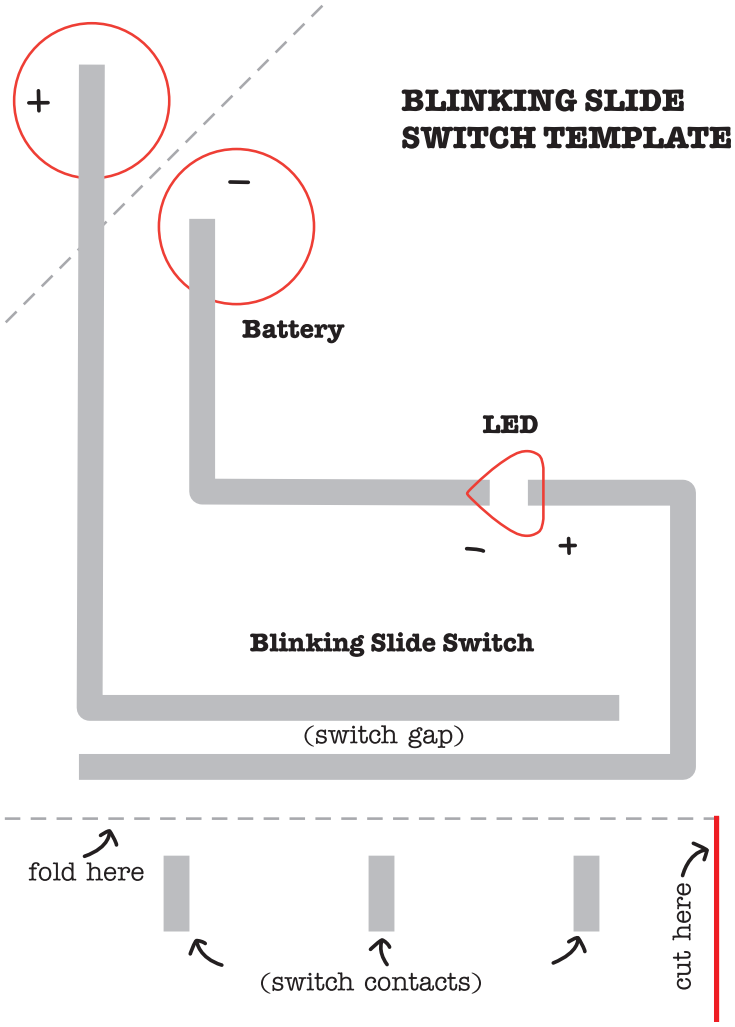
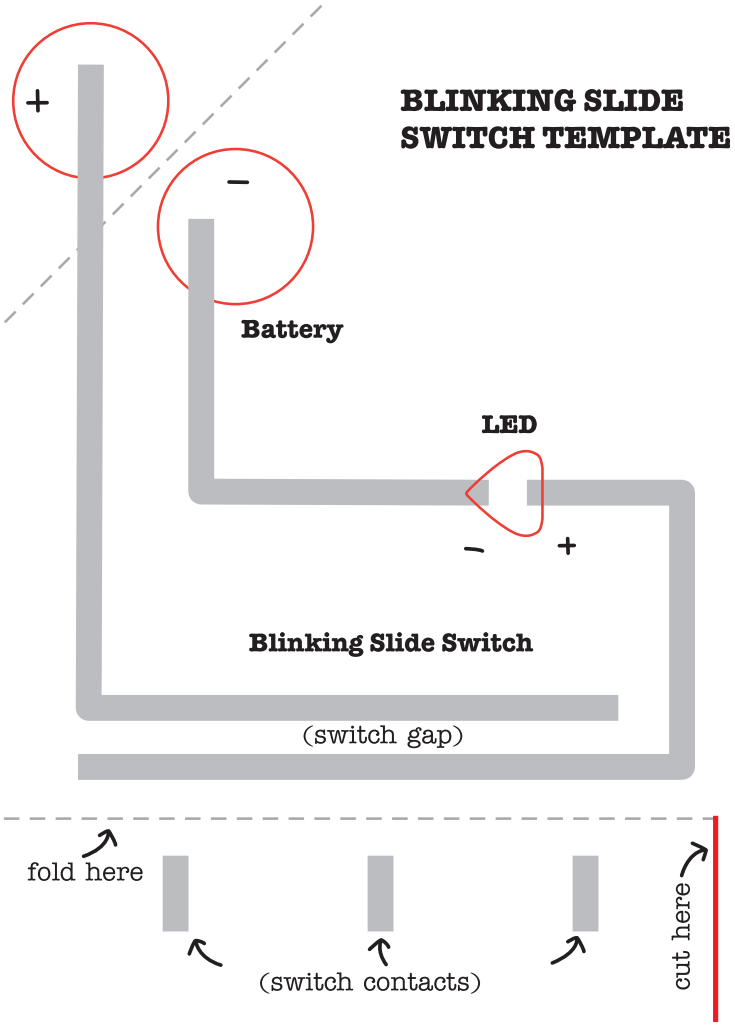
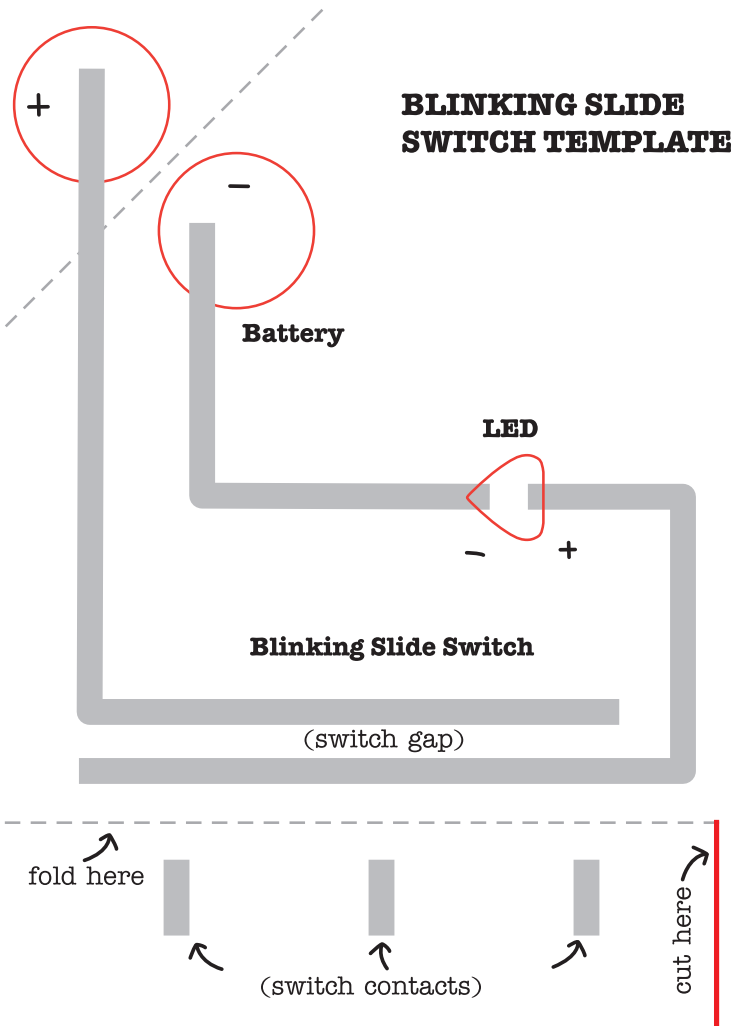
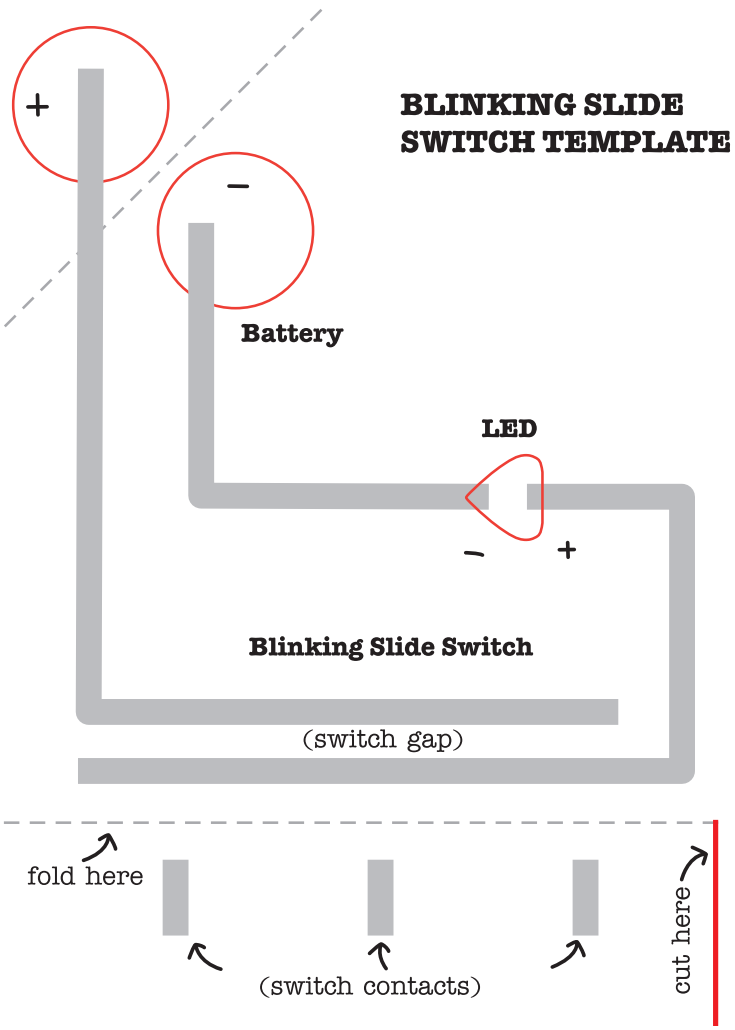
DIY SWITCH 47


BLINKING SLIDE
SWITCH TEMPLATE
+
−
Battery
LED
−
+
Blinking Slide Switch
(switch gap)
fold here
(switch contacts)
cut here


BLINKING SLIDE
SWITCH TEMPLATE
+
−
Battery
LED
−
+
Blinking Slide Switch
(switch gap)
fold here
(switch contacts)
cut here


BLINKING SLIDE
SWITCH TEMPLATE
+
−
Battery
LED
−
+
Blinking Slide Switch
(switch gap)
fold here
(switch contacts)
cut here


BLINKING SLIDE
SWITCH TEMPLATE
+
−
Battery
LED
−
+
Blinking Slide Switch
(switch gap)
fold here
(switch contacts)
cut here

Directions:

1. Turn to the template page and stick foil tape over the gray lines.
2. Stick the LED sticker onto the foil, on the footprint
3. Create your battery holder and clip your battery in place (see previous activities for details).
4. Cut along the bold red line
5. Fold up along the horizontal dotted line to make your blinking switch. Press and slide your finger across this switch, and the light will blink on and off!
6. Change the blinking pattern by moving or adding switch contact pieces!

press and slide here

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Directions:

1. Turn to the template page and stick foil tape over the gray lines.
2. Stick the LED sticker onto the foil, on the footprint
3. Create your battery holder and clip your battery in place (see previous activities for details).
4. Cut along the bold red line
5. Fold up along the horizontal dotted line to make your blinking switch. Press and slide your finger across this switch, and the light will blink on and off!
6. Change the blinking pattern by moving or adding switch contact pieces!

press and slide here

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BLINKING SLIDE SWITCH 61

Directions:

1. Turn to the template page and stick foil tape over the gray lines.
2. Stick the LED sticker onto the foil, on the footprint
3. Create your battery holder and clip your battery in place (see previous activities for details).
4. Cut along the bold red line
5. Fold up along the horizontal dotted line to make your blinking switch. Press and slide your finger across this switch, and the light will blink on and off!
6. Change the blinking pattern by moving or adding switch contact pieces!

press and slide here

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BLINKING SLIDE SWITCH 61

Directions:

1. Turn to the template page and stick foil tape over the gray lines.
2. Stick the LED sticker onto the foil, on the footprint
3. Create your battery holder and clip your battery in place (see previous activities for details).
4. Cut along the bold red line
5. Fold up along the horizontal dotted line to make your blinking switch. Press and slide your finger across this switch, and the light will blink on and off!
6. Change the blinking pattern by moving or adding switch contact pieces!

press and slide here

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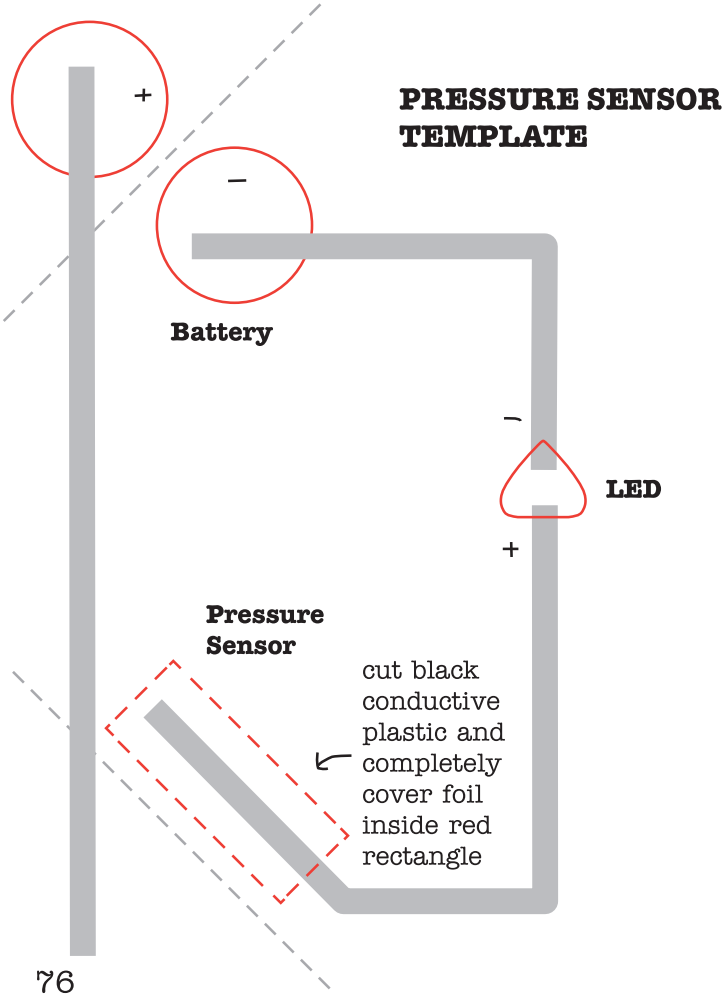
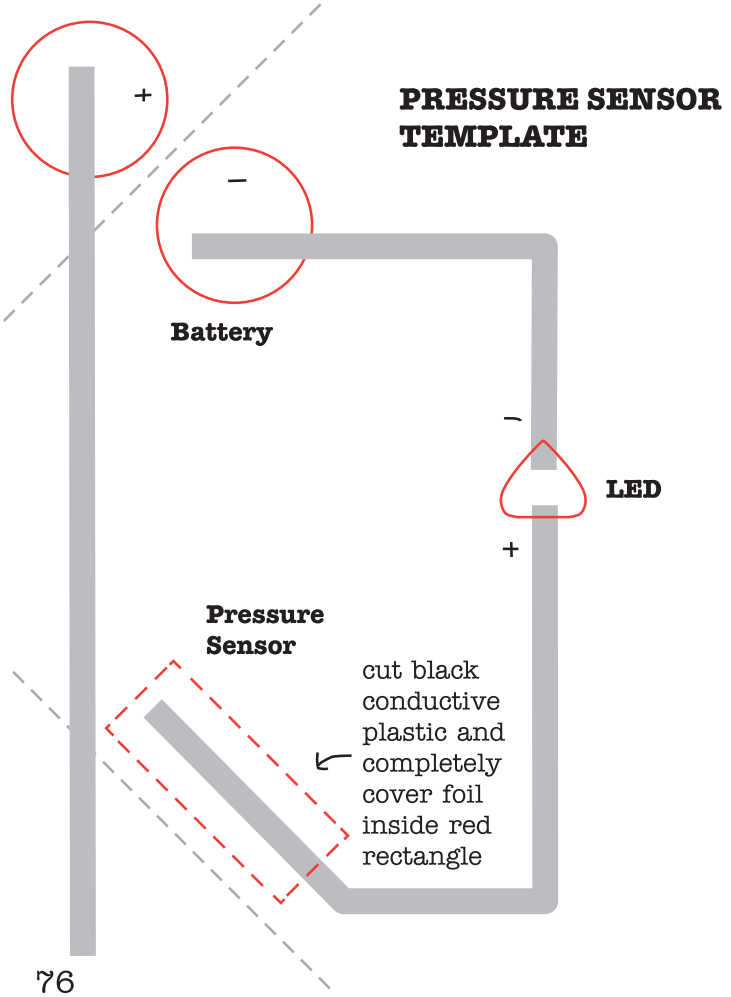
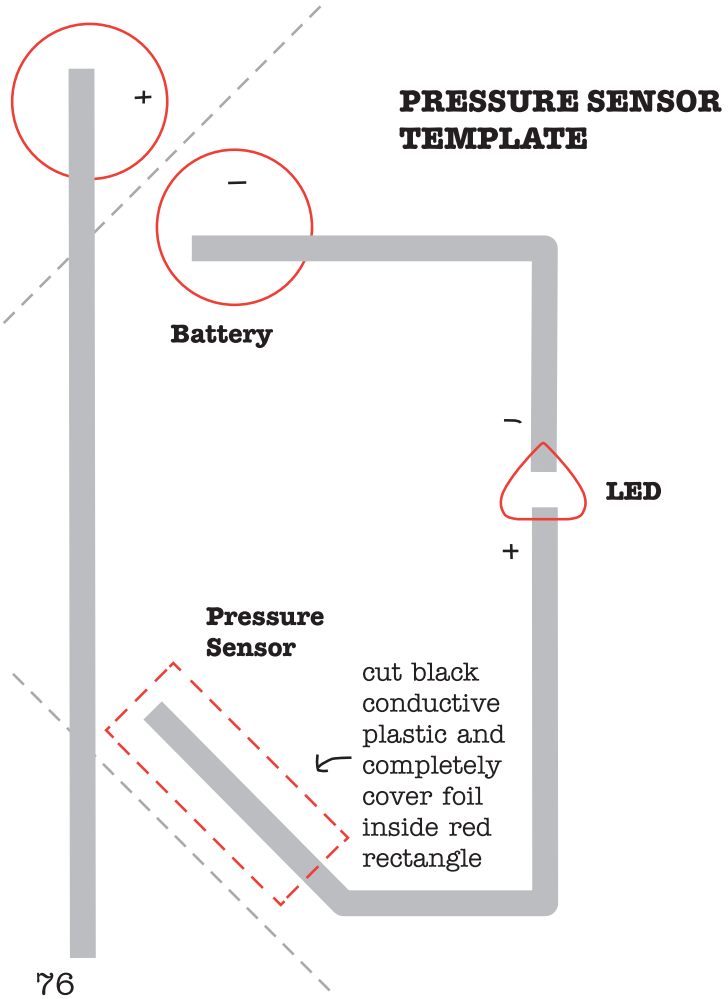
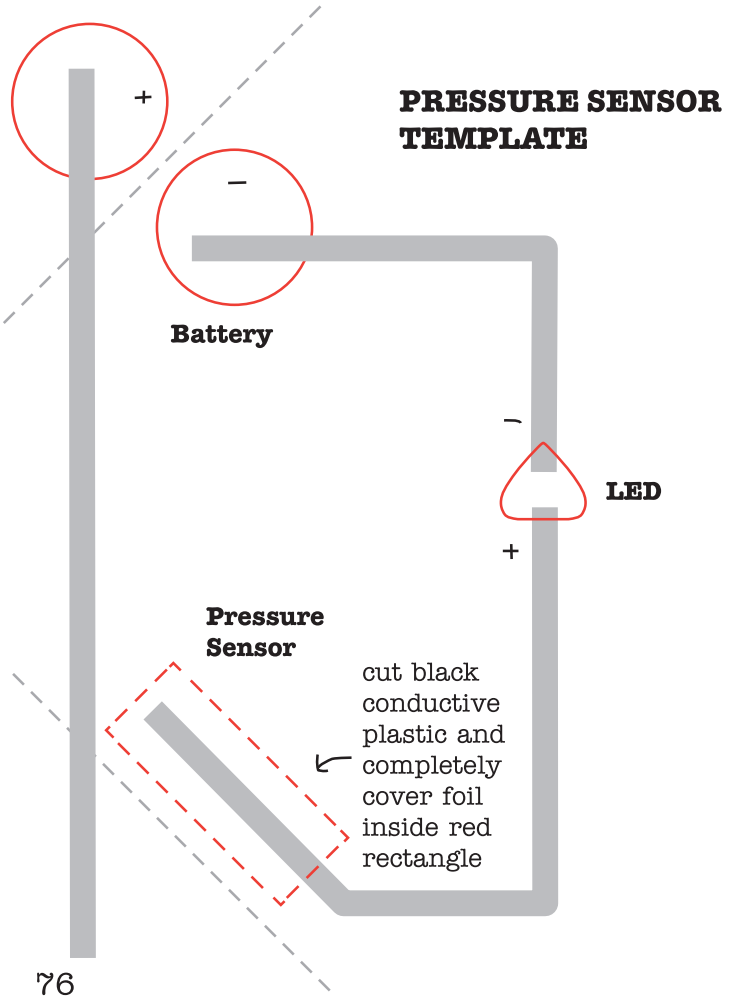
BLINKING SLIDE SWITCH 61


PRESSURE SENSOR TEMPLATE
+
−
Battery
−
LED
+
Pressure Sensor
cut black conductive plastic and completely cover foil inside red rectangle


PRESSURE SENSOR TEMPLATE
+
−
Battery
−
LED
+
Pressure Sensor
cut black conductive plastic and completely cover foil inside red rectangle


PRESSURE SENSOR TEMPLATE
+
−
Battery
−
LED
+
Pressure Sensor
cut black conductive plastic and completely cover foil inside red rectangle


PRESSURE SENSOR TEMPLATE
+
−
Battery
−
LED
+
Pressure Sensor
cut black conductive plastic and completely cover foil inside red rectangle

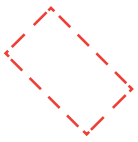
Directions:

1. Turn to the next page and stick foil tape over the gray lines.

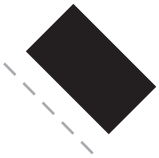
2. Fold the top page corner along dotted line and clip your battery in place with a binder clip.

3. Stick an LED sticker over the footprint and fold along the dotted line at the bottom of the page. Your LED will turn on, since you've just made a switch!

4. Unfold the switch you just made and cut the black conductive plastic in the shape of the red dotted rectangle.



5. Put the plastic over the dotted rectangle and fold the bottom flap again. Now when you press, the light will become brighter the harder you press – you just made a pressure sensor!



6. Turn the page. When you press on the heart, something comes to life! What is it?

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Directions:

1. Turn to the next page and stick foil tape over the gray lines.

2. Fold the top page corner along dotted line and clip your battery in place with a binder clip.

3. Stick an LED sticker over the footprint and fold along the dotted line at the bottom of the page. Your LED will turn on, since you've just made a switch!

4. Unfold the switch you just made and cut the black conductive plastic in the shape of the red dotted rectangle.

5. Put the plastic over the dotted rectangle and fold the bottom flap again. Now when you press, the light will become brighter the harder you press – you just made a pressure sensor!

6. Turn the page. When you press on the heart, something comes to life! What is it?

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PRESSURE SENSOR 75

Directions:

1. Turn to the next page and stick foil tape over the gray lines.

2. Fold the top page corner along dotted line and clip your battery in place with a binder clip.

3. Stick an LED sticker over the footprint and fold along the dotted line at the bottom of the page. Your LED will turn on, since you've just made a switch!

4. Unfold the switch you just made and cut the black conductive plastic in the shape of the red dotted rectangle.

5. Put the plastic over the dotted rectangle and fold the bottom flap again. Now when you press, the light will become brighter the harder you press – you just made a pressure sensor!

6. Turn the page. When you press on the heart, something comes to life! What is it?

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PRESSURE SENSOR 75

Directions:

1. Turn to the next page and stick foil tape over the gray lines.

2. Fold the top page corner along dotted line and clip your battery in place with a binder clip.

3. Stick an LED sticker over the footprint and fold along the dotted line at the bottom of the page. Your LED will turn on, since you've just made a switch!

4. Unfold the switch you just made and cut the black conductive plastic in the shape of the red dotted rectangle.

5. Put the plastic over the dotted rectangle and fold the bottom flap again. Now when you press, the light will become brighter the harder you press – you just made a pressure sensor!

6. Turn the page. When you press on the heart, something comes to life! What is it?

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PRESSURE SENSOR 75