

# 11

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# Week

## CONVEYING MOVEMENT

Using movement in photographs can help emphasize the energy or emotions of your subject. Movement can also be frozen to convey drama and power, or blurred to demonstrate speed.

### In this module, you will:

- ▶ **decide which techniques** will best convey the type of movement you want to show;
- ▶ **get to grips with the theories** behind capturing and creatively controlling movement;
- ▶ **learn the practicalities** by following the step-by-step assignments for panning and freezing movement;
- ▶ **look back over your images** to see what worked and what didn't, and find out how to go about correcting your mistakes;
- ▶ **improve your images** using computer software to add blur;
- ▶ **test yourself** on what you've learned to see if you're ready to move on.

Let's begin...





## ▶ TEST YOUR KNOWLEDGE

# Looking at movement



There are many different ways of achieving a sense of movement. Can you tell which techniques have been used to convey motion in these images? Match the descriptions with the relevant picture.

**A Long exposure with tripod:**

Can result in streaking light trails around stationary objects.

**B Panning:** Following quick-moving action with your camera creates a sense of motion.

**C Shooting at too slow a speed:**

Can result in everything being blurred, including the subject.

**D A shutter speed of 1/30 sec:**

Will keep a stationary subject sharp but blur the moving background.

**E Long exposure while moving:**

Can create an abstract sense of movement.

**F Panning with flash:** Used with a slow shutter speed, this can freeze and illuminate the subject against a blurred background.

**G Keeping subject central while panning:** Focus Tracking will keep your subject sharp as you follow their movement.

**H Fast shutter speed:** Can capture sudden movements.

ANSWERS

- D/2: Man standing on a train platform
- E/8: Light trails as seen from a car
- F/7: Dog with a ball in its mouth
- G/3: Man riding a bike through a park
- H/4: Cat jumping in a field

- A/5: Car light trails surrounding Monument, Bangkok, Thailand
- B/6: Athletes in a hurdles race
- C/1: Child running on a beach



NEED TO KNOW

- The direction of your subject's movement in relation to the camera can help convey action in your images.
- The shutter speed can freeze or exaggerate your subject's movement.
- The timing of your shot can make a huge difference to the final image. Using the flash and moving the camera can capture a moving subject.
- Switching your camera to Shutter Priority and selecting the appropriate shutter speed for your shot can take the pressure off while you experiment.
- Use the camera's Focus Tracking setting to help keep your subject sharp. This will emphasize the sense of movement and separate your subject from the blurred background.



Review these points and see how they relate to the photos shown here



## ▶ UNDERSTAND THE THEORY

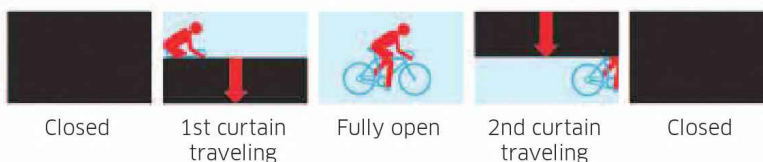
# Freeze and blur

To convey the exhilaration of movement, you'll need to think about the type of activity you want to portray. For instance, you can freeze the action at a key moment in a race, blur the background to create the impression of speed, or keep the camera and subject stationary as other elements move around them.



## HOW THE SHUTTER WORKS

The **shutter** uses a pair of blades called the curtains. The first curtain opens to start the exposure, and the second curtain follows to end it. The length of time it takes for this to happen is known as the shutter speed. This determines the amount of movement blur that will appear in your image.



## FREEZING OR BLURRING

### FREEZE

Freezing your subject while it is moving allows you to show details that would otherwise be missed, such as an extreme sports pose or the texture of animal fur.

Sports

Fast-moving sports require a shutter speed of at least 1/500sec. Very fast sports, including motor racing, will need shutter speeds that are even faster than that.



Using shutter speeds of 1/60sec or slower will produce blur in your photo. Using panning (see p.189) will keep the subject sharp but blur anything in the background.



Wildlife

Pin-sharp wildlife shots will usually highlight textures and markings, or focus attention on the animal's behavior. Shutter speeds of 1/2000sec or faster may be needed.



Blurring an animal's movement can add a dramatic effect to your photo. A shutter speed of 1/125sec or slower can also produce some abstract images of the natural world.



Landscape

Even the most serene landscape may have some movement in it, whether it's the waving of long grass in the wind or clouds being blown across the sky. A shutter speed of 1/1000sec or faster should freeze this.



Slower shutter speeds of 1/8sec or longer will blur any natural movement, turning fast-moving water into a silky ribbon.



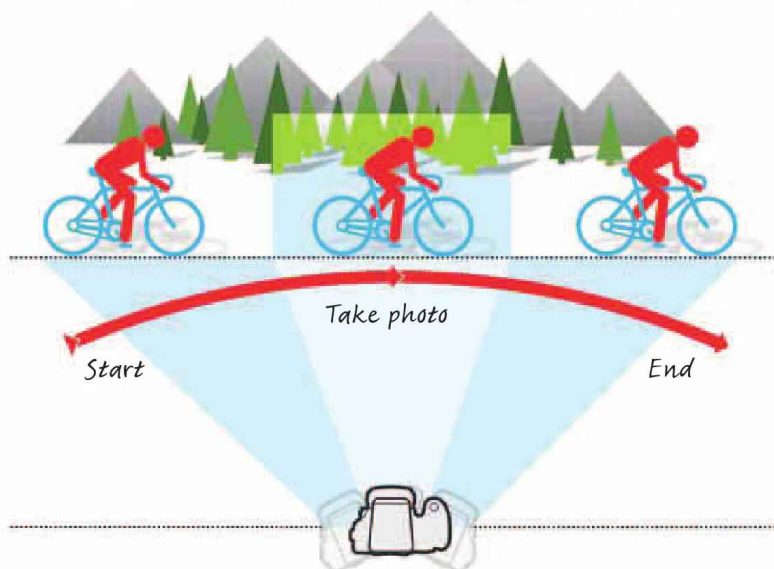
**Pro tip:** You can further freeze your main subject by using flash (see Week 17) while panning. The brief burst of light gives the appearance of freezing the subject closest to the camera and helps separate it from the background.

**Pro tip:** By panning with a wide-angle lens, the blurred background in your image may possibly have a curved shape. A telephoto lens will give a flatter, “straighter” appearance to any blur.



## PANNING

**Panning** involves moving the camera to match the movement of your subject. This will keep your subject sharp while blurring the background. Just before your subject reaches where you want to begin shooting, gently press the shutter button and turn at the waist so that you pan smoothly.



## EXPOSURE

You can also vary the other elements that play a key part in exposure to enhance any movement you want to capture.



**Medium Aperture** With Shutter Priority, the camera will adjust the aperture. However, it is worth trying to keep the aperture around  $f/8$ . This will keep your subject sharp but limit depth of field, enhancing the background blur.



**Lower ISO** Outdoors on brighter days, you may have to reduce the ISO, decreasing your camera's sensitivity to light. This will enable you to achieve a slightly slower shutter speed with an aperture of  $f/8$ .



## SHUTTER SPEED

The **shutter speed** you choose—the amount of time your sensor is open to record what is in front of it—is the key to how much movement your images will show. The longer it is exposed, the more movement it will record. Varying the shutter speed can create a totally sharp image, one that is slightly blurred to convey a sense of movement, or a photo that has been reduced to an abstract smudge of colors.



Using a fast shutter speed of  $1/3200$  sec freezes the action—there's no suggestion of movement or speed. The shutter is open for such a short amount of time that your subject won't have actually traveled any distance.



If you slow the shutter speed down to  $1/30$  sec the subject starts to appear more blurred. The shutter is open for a little longer, during which time your subject will have moved a small distance. You'll notice that arms, legs, and wheels start to look blurred.



If you slow the shutter speed down to  $1/15$  sec, the subject will appear completely blurred, with very little detail visible as it moves across the image. The level of blur will depend on how fast the subject is moving—more speed equals more blur.



## ▶ LEARN THE SKILLS

# Mastering panning shots



Moving the camera parallel to the movement of your subject can help express a sense of motion and speed. The technique can be tricky to get right and will require a little patience to refine. Find an interesting background and position yourself so your subject will move in front of you, either from left to right or from right to left.



## 1 Set your camera to Shutter Priority

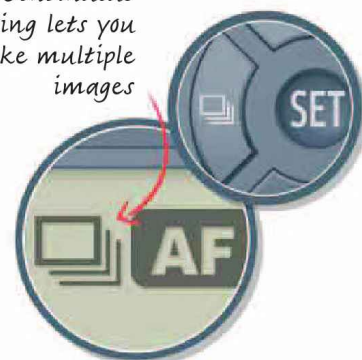
Select Shutter Priority (S or Tv on the control dial) so that you can control the shutter speed—an important consideration when trying to capture motion.



## 2 Set the Motor Drive

Turn your Motor Drive setting to Continuous. This will let you take a sequence of images quickly, without having to keep pressing the shutter button.

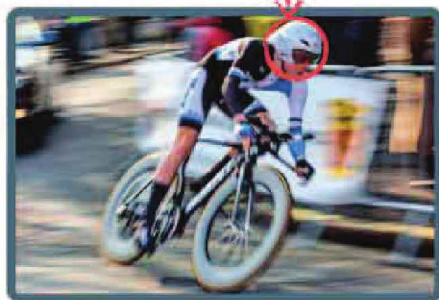
*The Continuous setting lets you take multiple images*



## 6 Center your subject

As your subject moves toward you, keep them roughly centered in the frame, allowing the camera's Focus Tracking to keep them sharp.

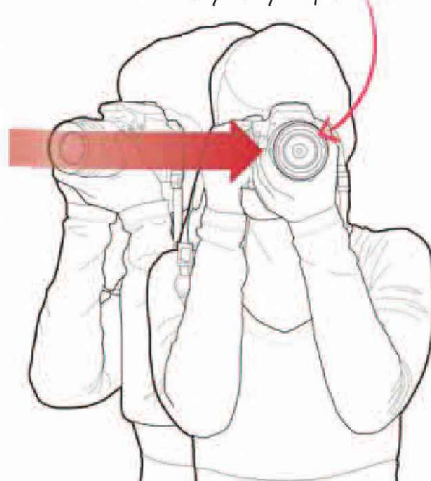
*Focus on your subject's head*



## 7 Shoot your images

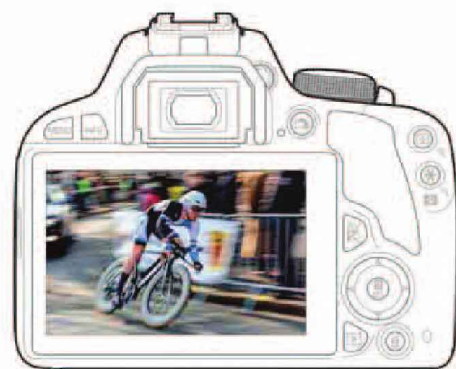
When your subject is parallel to you, press the shutter button and fire a short burst of images. Remember to move the camera to follow your subject's movement.

*Hold the camera steady as you pan*



## 8 Review and repeat

Look at your images. The background should be blurred while the subject should be sharp enough to stand out clearly, but with enough blurring to suggest movement. Repeat the shoot until you have mastered the technique.



**Where to start:** You'll need a willing subject who doesn't mind running or cycling in front of you a few times. Find a location with room to move around and a background that isn't just empty space.

**You will learn:** How to pan your camera. By the end of this exercise you'll see how camera movement, subject movement, timing, and shutter speed selection can combine to create a feeling of motion in your images.



### 3 Choose a low ISO

A relatively low ISO of around 200 will help to produce a smooth, noise-free image while using a relatively slow shutter speed.

*Select an ISO that's suitable for the conditions and the situation*



### 4 Select your shutter speed

Set your shutter speed to 1/60 sec. This is slow enough to give a sense of motion, but not so slow as to result in a completely blurry photo. The camera will figure out the aperture.

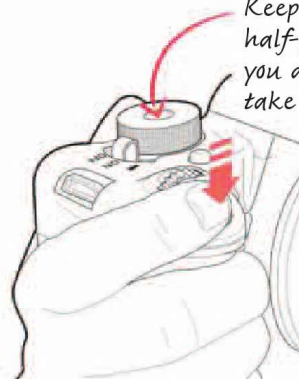
*Shutter speed set to 1/60 sec*



### 5 Adjust the focus

Set your camera to active tracking if it has this facility. If not, point your camera at a spot in front of you where your subject will pass by and half-press the shutter button to lock focus.

*Keep the button half-pressed until you are ready to take the shot*



*Face is sharp as focus tracking has followed the subject*



*Panning has captured the sense of motion and blurred the background*

## WHAT HAVE YOU LEARNED?

- Getting this technique right depends on finding the correct balance between your shutter speed, your position relative to the subject, and the speed at which you follow their movement.
- Panning is a tricky skill to get right, but the best way to learn is to keep practicing.
- It's important to choose the right shutter speed so as to blur movement just enough without overdoing it.



## ▶ LEARN THE SKILLS

# Freezing movement



Using a high shutter speed allows you to freeze the action as it happens, resulting in images that capture the power of an explosive moment. In conjunction with a telephoto lens, you can use a shallow depth of field to isolate your subject from the background and enhance the action.



### 1 Attach a suitable lens

For the best results, attach a telephoto lens to your camera or set your zoom to its longest setting. A longer lens will highlight the separation of your subject from the background, especially when using a wide-open aperture.



### 2 Turn up your ISO setting

Select an ISO setting of 400-800 if it is a bright day and you are outside, slightly more if it's not or you're indoors. Using a high ISO will increase the camera's sensitivity to light, enabling you to use a higher shutter speed.



Telephoto lens

Use a higher ISO than you would when shooting a stationary subject



### 5 Take up your position

Choose a position where your subject will be moving toward you. Consider whether you want a low viewpoint to exaggerate height, or a high viewpoint to get rid of background details. Turn your Motor Drive to Continuous.



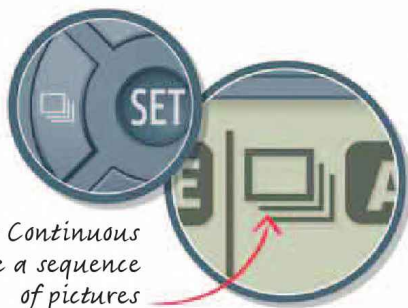
### 6 Take some shots

Shoot a short burst of shots as the subject comes into view. Aim to create the impression that the subject is powering out of the image toward you.



### 7 Review your images

Look back at your shots. If you're not happy with what you've got, try doing it again.

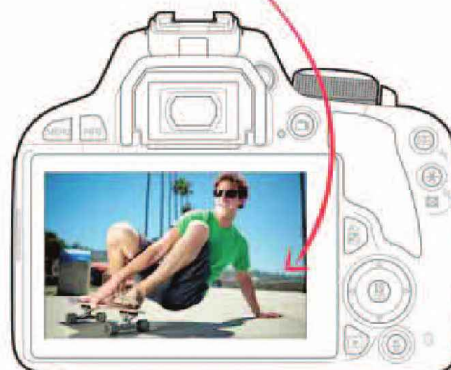


Select Continuous to take a sequence of pictures

Try to fill the frame with your subject



Review your shots in Playback





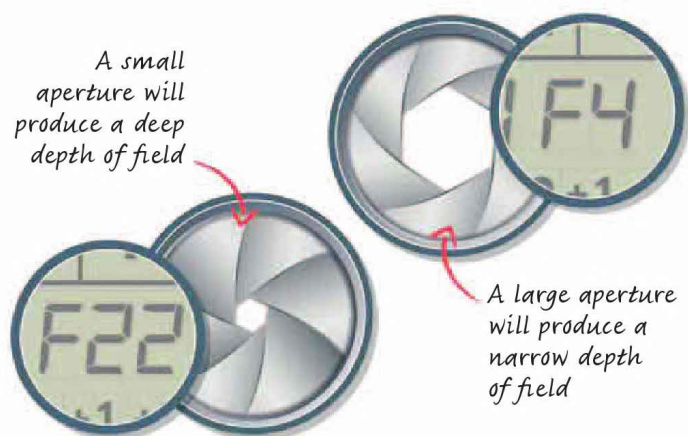
**Where to start:** You'll need a fast-moving subject that will come directly toward you. To get this technique to work, you'll need to use a high shutter speed (over 1/250sec), which may mean you need to increase your ISO.

**You will learn:** How to capture the intense power of movement, how to keep the subject completely frozen by using a high shutter speed, and how to set the subject apart from its background through the use of a wide-open aperture setting.



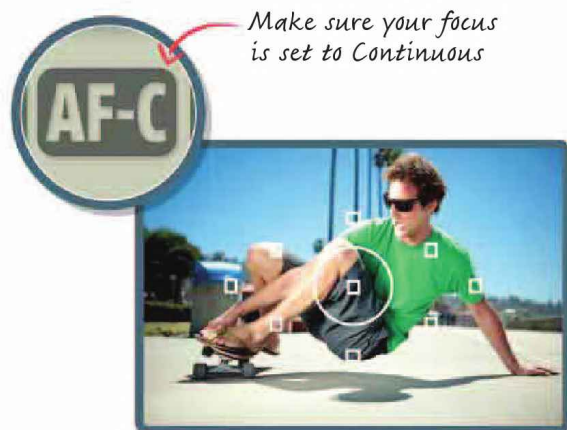
### 3 Select Aperture Priority

Set the aperture to the widest setting you have: this will give you a shallow depth of field. The camera will set the shutter speed, which will be fast to compensate for the wide-open aperture.



### 4 Turn on Focus Tracking

Select your camera's Focus Tracking (or Continuous Focus) setting. This will track the subject and keep it in focus as it heads toward the camera, provided you keep the focus point fixed on it.



## WHAT HAVE YOU LEARNED?

- Using a telephoto lens and a wide aperture will create a shallow depth of field that sets your subject apart from the background.
- A high-shutter speed freezes the action.
- Your viewpoint can have as much impact on your shot as your camera settings.

Remember to save your best shots



The subject is frozen against the out-of-focus background.



## ▶ PRACTICE AND EXPERIMENT

# Freezing and panning

To perfect the different ways of conveying movement, you'll need to practice. That way, when it comes to that all-important sports day or major event, you won't be left with disappointing results. Try each of these exercises several times using faster or slower

shutter speeds so that you can see for yourself the difference a few shutter speed changes can make. By working through these assignments, you'll also find that your timing and skill at selecting the right moment to shoot will improve.



### ION

**EASY**

**30 MINUTES**

**BASIC + tripod**

**OUTDOORS**

**A SPORTING EVENT  
OR COMPETITION**

**This project is all about** judging the right moment to freeze the action.

■ **Switch** your camera to Sports mode (or Aperture Priority at the widest setting), use Continuous AF, and set the drive mode to Continuous.

■ **Follow** your subject as they move and look for the "peak of the action."

■ **Anticipate** when this is likely to occur and shoot through the moment.

■ **Try** to fill the frame with your subject. It doesn't matter too much if parts of your subject are bursting out of the frame.



*A fast shutter speed will freeze any action*



*Perfect timing has caught this girl at the peak of her jump*

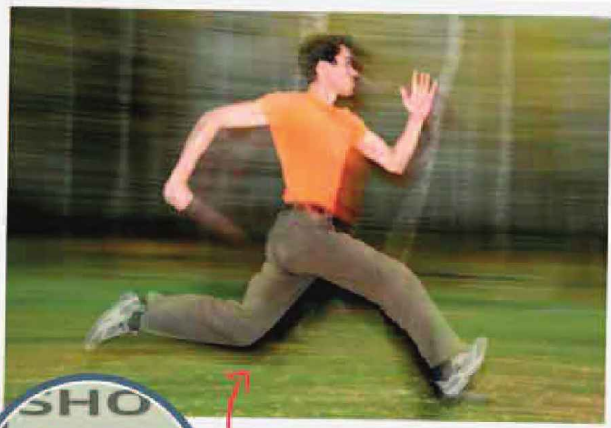
**Pro tip:** Once you've taken some panning shots that you're happy with, write down the shutter speed setting that worked best for you. This way, you'll be able to use it as a baseline starting point for your next set of images.

## SLOW SYNC FLASH

-  **HARD**
-  **1 HOUR**
-  **BASIC + flash**
-  **INDOORS OR OUTDOORS**
-  **EVENT WHERE PEOPLE ARE MOVING, SUCH AS A PARTY**

**This technique results in an image** with a sharp, well-lit subject against a blurred background, which magnifies the effect of movement.

- **Turn** on the flash or attach it to the camera and install a wide-angle lens.
- **Set** your ISO to 200 or slower if the scene is quite bright.
- **Select** Shutter Priority and set your shutter speed to 1/15 sec. The camera will set the aperture.
- **Focus** on your subject and move the camera as they move. The flash freezes them while the slow shutter speed will blur the background.
- **Try** using very slow shutter speeds and moving the camera around to exaggerate the results.



*The subject has been frozen by the flash, but the background is blurred due to the longer exposure*

## PANNING

-  **MEDIUM**
-  **1 HOUR**
-  **BASIC**
-  **OUTDOORS**
-  **A BUSY ROAD OR STREET**

**For this assignment,** you'll need to position yourself parallel to a moving subject.

- **Select** Shutter Priority and start with a shutter speed of 1/60sec—then you can try faster or slower settings. Don't use Sports mode.
- **Pre-focus** on the spot where your subject should move through, or use Continuous AF mode.
- **Set** your Motor Drive to Continuous, and when your subject is directly opposite, fire off a few shots. Remember to keep following the action as it goes past you, as this is what will create the blur in the background.



Moving the camera to follow the snow plow has given the impression of speed.

## WHAT HAVE YOU LEARNED?

- Timing is important in order to make sure you capture your subject at "the peak of the action."
- Experimenting with shutter speeds can lead to some interesting results.
- Using Continuous AF and Continuous shooting will give you a better chance of capturing the moment you want.



## ▶ ASSESS YOUR RESULTS

# Reviewing your shots

Once you've completed the assignments in this module and gotten to grips with the technicalities of capturing movement, pick out some of your best shots. Use the questions here as a checklist to see if anything could be improved.

⦿ **Are you in the right position to pan?**  
To pan properly, you need to be in a position to move the camera at the same speed as your subject. If there are a lot of subjects, or they are moving too quickly, the image may end up blurred, as has happened here.



⦿ **Is your shutter speed too slow?**  
Getting the right shutter speed is often a matter of trial and error. Here, the shutter speed was too slow to capture the passing bicycle rider properly, making him appear somewhat indistinct.



⦿ **Did you move the camera with the subject?**  
If you didn't move the camera at the same speed as your subject, your image will be a bit unfocused. Here, the camera hasn't quite kept up with the horse, blurring its outline, but also conveying a sense of speed.

⦿ **Is your shutter speed slow enough?**  
This image was taken from the window of a moving car using a very slow shutter speed, which has convincingly conveyed a sense of movement.

# “ Photography takes an **instant out of time**, altering life by **holding it still**. ”

DOROTHEA LANGE

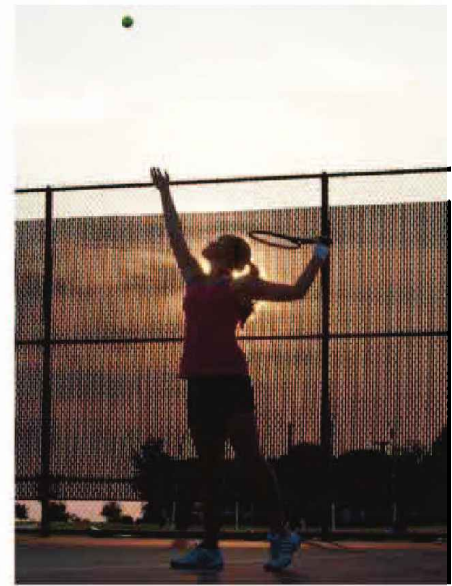
11

WEEK



## ⌚ Is your shutter speed fast enough?

A fast shutter speed has frozen the water droplets kicked up by this runner as he splashes through a puddle.



## ⌚ Have you considered the background?

Shooting against the sun has captured this tennis player almost as a silhouette and has also emphasized the pattern in the fence behind her.



## ⌚ Did you pan at the right speed?

This excellent panning image was achieved by using a fast shutter speed and carefully following the direction and speed of the car with the camera.



## ⌚ Did you pick the best viewpoint?

This image works well because of the high vantage point, which helps to both convey movement and place the subject in its wider context.



## ▶ ENHANCE YOUR IMAGES

# Adding blur



Sometimes you may wish to add the impression of motion after taking your picture. Modern software makes this very simple. Choose an image with a strong foreground subject that looks like it is moving but where the background is sharp. Open it in your image-editing software.



### 1 Draw around your subject

Using the Lasso tool, draw around the outline of your subject. Try to keep as close to the edge as you can.



*A steady hand is needed to draw around the subject*



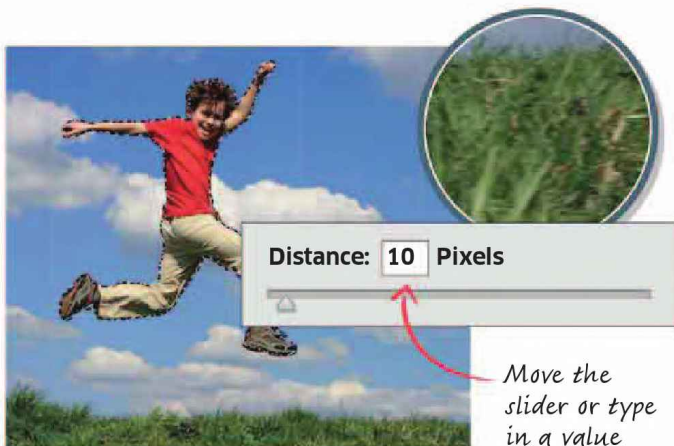
### 5 Blur your image

A new window will appear with a slider at the bottom. Move it toward the right to blur the background—everything you didn't draw around at the start.



### 6 Aim for subtlety

The farther to the right you move the slider, the more blurred your image becomes. If you go too far, the whole image will look smudged—remember, less is more.



**Pro tip:** When adding blur to a subject to imply that it is moving, try experimenting with different types of blur; the Motion Blur setting may not give the desired effect.



## 2 Add a feather effect

Go to the Feather box in Options bar and adjust the value to soften the outline of your subject. This avoids an abrupt transition between blurred and sharp. A value between 10 and 20 should be enough, but you may need to change this later.



*The greater the value, the stronger the blur*



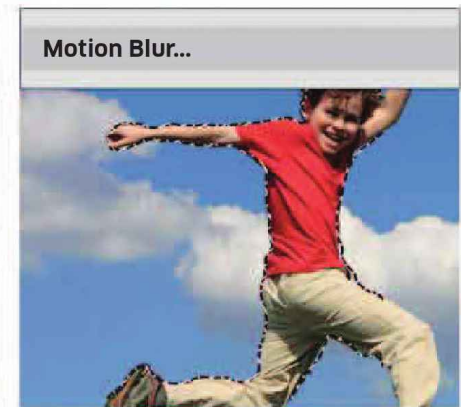
## 3 Select the background

Go to the Select drop-down menu and choose Inverse. This will select the background for blurring. If you want to blur your subject instead, ignore this step.



## 4 Choose Motion Blur

Select the Filter drop-down menu, then Blur. This will bring up another drop-down menu. Select Motion Blur.



## TRY RADIAL BLUR

Experiment with different types of blur. For example, choose Radial Blur in Step 4 instead. A setting of 20-35 is normally sufficient to suggest movement.

