Making the most of your KODAK film

How to use this booklet :

● *First.* On the opposite page, note what your camera settings are for.

● *Second.* Select a picture (pp. 2-12) similar to the picture which you wish to take.

● *Third.* Judge light conditions (Bright Sun, Hazy Sun, or Cloudy but Bright).

● *Fourth.* Set camera to match the drawing shown with appropriate light condition.

Film ? Time of year ? Climate ?

Camera settings in this booklet are suitable for snapshots on 'Verichrome' and 'Plus-X' films in temperate zones from March to September. Modify them for :—

TROPICS : Use the next higher *f*-number (next smaller lens opening). This can also be used in midsummer, in temperate zones, for negatives of best enlarging quality.

WINTER MONTHS IN TEMPERATE CLIMATES —except for snow scenes for which see page 11— use next lower *f*-number (next larger lens opening).

'PANATOMIC'-X FILM : use the next lower *f*-number (next larger lens opening).

'SUPER-XX' FILM : use the next higher *f*-number (next smaller lens opening).

NOTE : If two of above circumstances are combined both modifications must be made.

The distinctive qualities of the four grades of 'Kodak' roll and miniature films are given at the end of this booklet.

When you have a few minutes, read through the "20-Minute Course in Picture Taking," commencing on page 14.

A415WP2001146 KODAK LIMITED LONDON

SETTINGS FOR MOST SUNLIT SUBJECTS

For 'VERICHROME' or 'PLUS-X' Film

For 'Super-XX' and 'Panatomic'-X Film see opposite.

You can take a picture of a practically motionless subject in sunlight with these three settings:

←1. DISTANCE INDICATOR AT FOOTAGE FIGURE REPRESENTING DISTANCE FROM YOU TO SUBJECT.

● This will make the picture sharp and clear and is referred to as "focusing" your camera. Focusing at 25 feet will be satisfactory for many of the pictures you will take between 8 feet and infinity.

←2. SHUTTER SPEED AT 50.

● This means that the blades of the shutter will open, let light through the lens, close, and thus make the picture in 1/50 of a second.

←3. LENS OPENING AT f/11.

● This controls the size of the opening through which the light passes, and, consequently, the amount of light that gets through to affect your film.

With a camera having a pre-setting shutter, be sure to "set" the shutter before you take each picture. If your camera is a 'Brownie', or of the type with fixed-focus lens and no shutter-speed adjustment, it is already set for general sunlight pictures. You need make no adjustments.

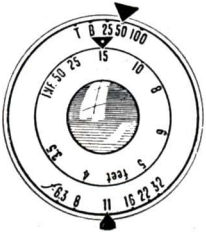
FOR PICTURES OF PEOPLE

(Good lighting, background, and expressions make such pictures)

SET YOUR CAMERA LIKE THIS

For 'VERICHROME' or 'PLUS-X' Film

For 'Super-XX' and 'Panatomic'-X Film see inside front cover.



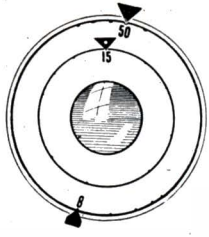
WITH BRIGHT SUN

(Strong Shadows Cast)

- Shutter speed at 50 (1/50 sec.).
- Focus at lens-to-subject distance.

This picture was taken at 15 ft.

- Lens opening at *f*/11.



WITH HAZY SUN

(Soft Shadows Cast)

- Shutter speed at 50 (1/50 sec.).
- Focus at lens-to-subject distance.
- Lens opening at *f*/8.

CLOUDY BUT BRIGHT

(No Shadows

- Shutter speed at 50 (1/50 sec.).
- Focus at lens-to-subject distance.
- Lens opening at *f*/5.6 or *f*/6.3. If cloudy and *dull*, *f*/4 or *f*/4.5 should be used if available.

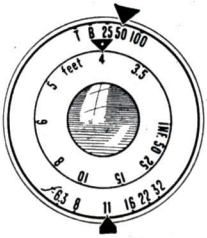
For a 'Brownie', or similar camera, this is a suitable subject with bright or hazy sun. No adjustments are necessary.

FOR INTERESTING "CLOSE-UPS"

(Closeness of subject demands extreme care in focusing)

SET YOUR CAMERA LIKE THIS

For 'VERICHROME' or 'PLUS-X' Film

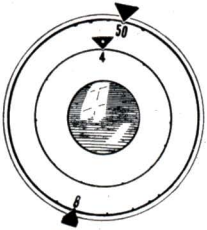


For 'Super-XX' and 'Panatomic'-X Film see inside front cover.

WITH BRIGHT SUN

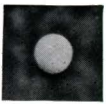
(Strong Shadows Cast)

- Shutter speed at 50 (1/50 sec.).
- Focus at lens-to-subject distance. This picture was taken at 4 ft.
- Lens opening at *f*/11.

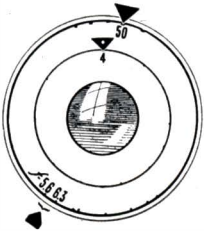


WITH HAZY SUN

(Soft Shadows Cast)



- Shutter speed at 50 (1/50 sec.).
- Focus at lens-to-subject distance.
- Lens opening at *f*/8.



CLOUDY BUT BRIGHT

(No Shadows)

- Shutter speed at 50 (1/50 sec.).
- Focus at lens-to-subject distance.
- Lens opening at *f*/6.3 or *f*/5.6. If cloudy and *dull*, *f*/4 or *f*/4.5 should be used if available.

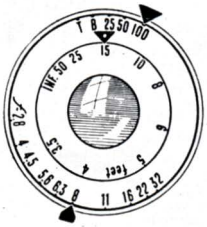
With a 'Brownie', or similar camera, this picture can be taken only if a Portrait Attachment is used. The Attachment is slipped over the camera lens. The distance from lens to subject must be between 4 and 6 ft. This picture should not be attempted on a cloudy day.

TO "STOP" A MOVING SUBJECT

(Moving subjects need higher shutter speeds)

SET YOUR CAMERA LIKE THIS

For 'VERICHROME' or 'PLUS-X' Film



For 'Super-XX' and 'Panatomic'-X Film see inside front cover.

WITH BRIGHT SUN

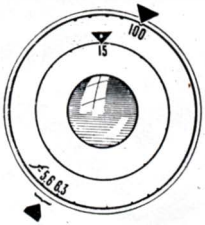
(Strong Shadows Cast)

▼ Shutter speed at 100 (1/100 sec.).

▼ Focus at lens-to-subject distance.

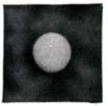
This picture was taken at 15 ft.

● Lens opening at *f*/8.



WITH HAZY SUN

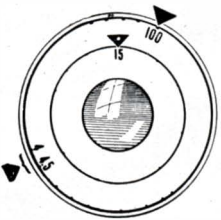
(Soft Shadows Cast



▼ Shutter speed at 100 (1/100 sec.).

▼ Focus at lens-to-subject distance.

● Lens opening at *f*/5.6 or *f*/6.3.



CLOUDY BUT BRIGHT

(No Shadows)

▼ Shutter speed at 100 (1/100 sec.).

▼ Focus at lens-to-subject distance.

● Lens opening at *f*/4 or *f*/4.5. If cloudy and *dull*, *f*/2.8 should be used if available.

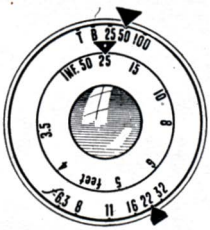
With a 'Brownie', or similar camera, this picture will be blurred, for the shutter operates at a speed suitable only for subjects that are either not moving or are moving slowly toward or away from your camera.

FOR A DISTANT LANDSCAPE

(Small lens opening is necessary)

SET YOUR CAMERA LIKE THIS

For 'VERICHROME' or 'PLUS-X' Film



For 'Super-XX' and 'Panatomic'-X Film see inside front cover.

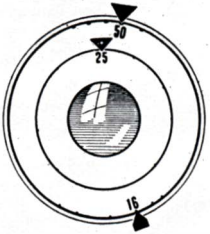
WITH BRIGHT SUN

(Strong Shadows Cast)

▼ Shutter speed at 50 (1/50 sec.).

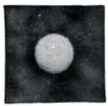
▽ Focus at lens-to-subject distance. This picture was taken at 25 ft. Without a foreground subject, use Infinity.

● Lens opening at *f*/22.



WITH HAZY SUN

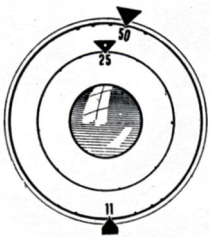
(Soft Shadows Cast)



▼ Shutter speed at 50 (1/50 sec.).

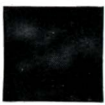
▽ Focus at lens-to-subject distance.

● Lens opening at *f*/16.



CLOUDY BUT BRIGHT

(No Shadows)



▼ Shutter speed at 50 (1/50 sec.).

▽ Focus at lens-to-subject distance.

● Lens opening at *f*/11. If cloudy and *dull*, you will need *f*/8.

For a 'Brownie', or similar camera, this is a good subject on either a sunny or cloudy day. In bright sun with a camera equipped with a lens opening slide, draw out the slide so that the smallest opening is at the lens.

FOR WINTER SCENES IN SNOW

(Correct exposure is necessary for best results)

SET YOUR CAMERA LIKE THIS

For 'VERICHROME' or 'PLUS-X' Film

For 'Super-XX' and 'Panatomic'-X Film see inside front cover.

WITH BRIGHT SUN

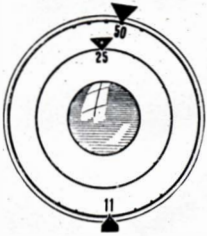
(Strong Shadows Cast)

▼ Shutter speed at 50 (1/50 sec.).

▽ Focus at lens-to-subject distance.

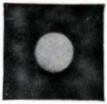
This picture was taken at 25 ft.

⌂ Lens opening at *f*/16.



WITH HAZY SUN

(Soft Shadows Cast)



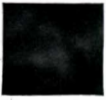
▼ Shutter speed at 50 (1/50 sec.).

▽ Focus at lens-to-subject distance.

⌂ Lens opening at *f*/11.

CLOUDY BUT BRIGHT

(No Shadows)



▼ Shutter speed at 50 (1/50 sec.).

▽ Focus at lens-to-subject distance.

⌂ Lens opening at *f*/8. If cloudy and *dull*, at *f*/6.3 or *f*/5.6.

For a 'Brownie', or similar camera, this is a suitable subject with all the above light conditions. Some of these cameras have a wide slide with round lens openings in it. With bright sun, draw out this slide so that the smallest opening is at the lens.

FOR BEACH SNAPSHOTS

(Bright beach lighting, requires small lens opening)

SET YOUR CAMERA LIKE THIS

For 'VERICHROME' or 'PLUS-X' Film

For 'Super-XX' and 'Panatomic'-X Film see inside front cover.

WITH BRIGHT SUN

(Strong Shadows Cast)

▼ Shutter speed at 50 (1/50 sec.).

▼ Focus at lens-to-subject distance. This picture was taken at 8 ft.

⬟ Lens opening at *f*/16.

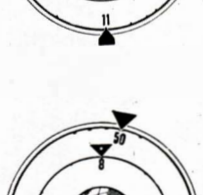
WITH HAZY SUN

(Soft Shadows Cast)

▼ Shutter speed at 50 (1/50 sec.).

▼ Focus at lens-to-subject distance.

⬟ Lens opening at *f*/11.



CLOUDY BUT BRIGHT

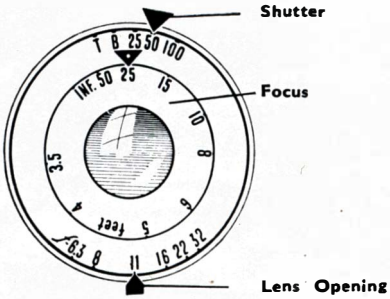
(No Shadows)

▼ Shutter speed at 50 (1/50 sec.).

▼ Focus at lens-to-subject distance.

⬟ Lens opening at *f*/8. If cloudy and ***dull***, you will need *f*/5.6 or *f*/6.3.

For a 'Brownie', or similar camera, this is a good subject on a sunny, hazy, or "cloudy bright" day, but do not get closer than 8 ft. In bright sun, with a camera equipped with a lens opening slide, draw out the slide so that the smallest opening is at the lens.



Focusing properly

Select the picture you want and look at it in your viewfinder. Whatever you see here is what you will see in your finished picture, although the finished picture will be considerably larger, of course. Do not expect a picture of just a person's face if his whole body appears in the viewfinder.

If you are making a close-up (just a person's head and shoulders), allow a little extra space in your viewfinder above the subject's head. Otherwise, the difference in position of viewfinder and lens may cause the top of the subject's head to run out of the picture.

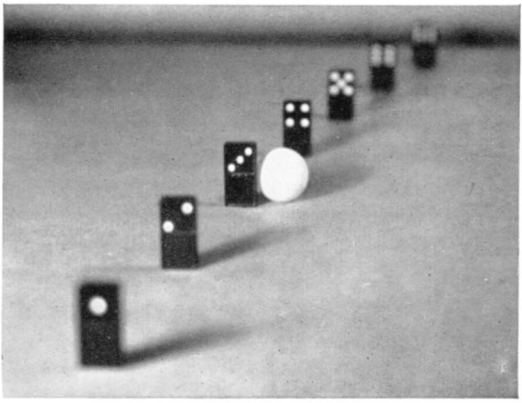
When you see in the viewfinder the picture you want, estimate as accurately as possible the distance in feet from your camera lens to the subject.

Turn the focusing ring until this distance is shown under the pointer at the top of the lens. (If your camera focuses by sliding the bellows in and out, move it until the pointer on the side is at the correct distance figure.) If your estimate of the distance falls halfway between two of the footage markings on the ring, set the ring halfway between the two numbers. For example, if you estimate the distance to be 7 feet, turn the ring until it is at a point where 7 would appear—about halfway between 6 and 8 on the ring shown opposite.

The sharpness of most pictures is increased considerably by the use of a small lens opening. (*See illustration on following page.*) The subject focused-on is in focus regardless of the lens opening you use (if you judge the distance accurately), but when you use a small lens opening more of the subject matter in front of and behind the subject focused-on will be sharp. In most cases, this enhances the general appearance of your picture and makes it easier for you to get a sharp focus on your main subject, for the subject is more likely to fall within the range of sharpness even if you misjudge the distance somewhat.

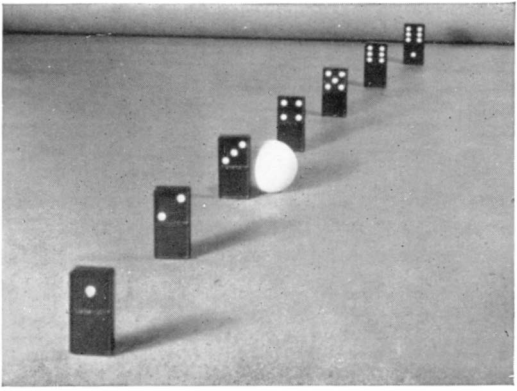
It is particularly important to judge or measure distances accurately for close-ups, as the range of sharpness is very limited at short distances. If the principal subject is blurred (although still) the focus is at fault.

Range of Sharpness depends upon Size of Lens Opening



The picture above was made with the lens focused on the third domino, using a large lens opening (low *f*-number).

In the illustration below, the focus was again on the third domino, but this time a much smaller lens opening was used. Note the increase in the range of sharpness gained by using a smaller lens opening (higher *f*-number).



Selecting the correct shutter speed

For all ordinary subjects, set the shutter at 50 (1/50 second).

For moving subjects, such as people walking near the camera, or children playing and running, set the shutter at 100 (1/100 second).

If your camera is one with even faster speeds, select them in accordance with the speed of the subject, i.e., the faster the subject moves, the faster the shutter-speed that should be used, with larger lens openings to compensate.

With miniature cameras, use 1/100 second or faster for all hand-held exposures. At slower speeds, slight camera motion may blur your pictures.

Time and Brief-time ("T", "B") Exposures

The letter "T" represents a *time* exposure. When you set the shutter at "T" and press the exposure button, the shutter snaps open, remains open until you press the button a second time, then closes. The letter "B" represents a *brief-time* exposure. When you set the shutter at "B" and press the exposure button down and *hold* it down, the shutter opens and remains open until you release the button, then it closes. The "T" and "B" settings are used for pictures in very little light, at night, or in deeply shaded places. For

exposures from one-half to ten seconds use *Brief-time*. For longer exposures, use *Time*. In either case, the camera must be placed on a tripod or other firm support. Do not hold it in your hands or the picture will be blurred.

Adjusting the Lens Opening

The size of the lens opening is controlled by a lens diaphragm which works like the iris of your eye. In poor light, you use a wide lens opening on your camera, like a cat's eye at night, to get as much light as possible. In bright light, you use a small opening, like your own eye on a sunny day, to prevent over-exposure of the film.

When the lens opening is set at its lowest number, the diaphragm is wide open; as the pointer is moved towards the higher numbers, the diaphragm closes until, at the highest number, it is nearly a pin point.

f-Numbers

Most cameras have their lens openings in terms of *f*-numbers. These are the numbers such as *f*/8, *f*/11, etc., referred to in this book. Any *f*-number is the relation between the diameter of the lens opening being used and the focal length (distance from lens to film) of the camera. To determine an *f*-number, divide the focal length by the diameter of the lens opening being used. For example, *f*/11 means that the focal length is 11 times the lens diameter. This system of designation is

useful because it serves as a universal measure of the light-admitting ability, or "speed", of a lens regardless of the size of the camera. On a small camera *f*/8 permits the same ***intensity*** of light to strike the film as *f*/8 does on a large camera. Lenses are customarily specified in terms of their lowest *f*-number (largest opening). Thus an "*f*/4.5 lens" has *f*/4.5 as its maximum speed.

Relation between Lens Openings

Each successively larger lens opening shown on page 14 admits twice as much light as the smaller lens opening next to it, i.e., *f*/22 admits twice as much light as *f*/32; *f*/16 admits twice as much light as *f*/22; *f*/11 admits twice as much light as *f*/16, and so on.

Relation between Lens Opening and Shutter Speed

When *f*/11 at 1/50 of a second is the recommended setting, you can use *f*/8 at 1/100 of a second (the same exposure) to stop a moving subject. Although 1/100 of a second is half of 1/50 of a second, since the shutter remains open only half as long (and the amount of light that can enter, therefore, is halved), *f*/8 admits twice as much light as *f*/11—hence the resulting exposures are identical. If your shutter speed is now set at 1/200 of a second, for action pictures, the shutter is open only half as long as at 1/100 of a second, so the exposure is again cut in half. Compensation must be made by doubling the lens opening, and that means

moving the lens-opening from *f*/8 to *f*/5.6 (or *f*/6.3 if your camera has no *f*/5.6). This same principle may be applied to any shutter speed and lens opening. If the *time* of exposure is halved, then the *intensity* of exposure must be doubled by using the next larger lens opening (next lower *f*-number). Conversely, doubling the *time* of exposure—a change, for example, from 1/100 to 1/50 of a second—calls for halving the *intensity* of exposure, i.e., moving the lens opening one smaller—which is the next higher number. At one place (at the shutter), the exposure is doubled; at another (at the lens opening), the exposure is halved. The result is the same. This principle can be applied to any camera having a range of shutter speeds and lens openings.

Other Systems of Marking Lenses

This entire booklet is based on the *f*/system of marking lenses. If your camera employs the U. S. (uniform system) or 1, 2, 3, 4 markings, the *f*-recommendations may be translated for your camera by this table:

f/	4	5.6	8	11	16	22	32	45
U. S. . . .	4		8		16	32	64	128

The lenses on box and other simple cameras usually have an aperture between *f*/11 and *f*/16. When a second opening is provided, it generally comes between *f*/16 and *f*/22. A third opening, found on some models, falls between *f*/22 and *f*/32.

SUMMARY—Good pictures depend on :

1. Correct focusing. After you look at the picture you want in the viewfinder and *before* you press the exposure button, make an estimate of the distance from lens to subject and focus your camera accordingly. Remember that, as illustrated on page 16, the smaller the lens opening, the greater is the range of sharpness.

2. Proper shutter speed. The shutter must open and close quickly enough to "stop" subject motion, otherwise, with a moving subject, you will get a blurred image.

3. Right amount of light, that is, proper exposure, as indicated in pages 2-13.

There are two general principles :

(a) Less light requires a larger lens opening (lower *f*-number).

(b) Under same light conditions, faster shutter speeds must be compensated for by larger lens openings (lower *f*-number).

GENERAL HINTS FOR BETTER PICTURES

● *Never let the sun shine on the lens of your camera.* The usual warning to keep your back to the sun, is generally true. However, side lighting is especially effective in pictures where the subject is very bright—snow scenes, beach scenes, white buildings,

and similar scenes where there ordinarily are few shadows. The shadows produced by side lighting on a bright day add contrast to pictures that would otherwise lack depth and be uninteresting. There are occasions when back lighting (the sun shining on the back of your subject and at your camera) is desirable. Such occasions might be silhouettes, water scenes in the path of the sun, or other unusual effects. But whenever you use back lighting, extra precaution must be taken to prevent the sun from shining into the lens of your camera. The lens must be in the shade. This may be accomplished by putting your hand across the top of the lens, like the peak on a man's cap. Or you can hold a hat in such a position that its shadow falls over the lens. Be sure that the hat, your hand, or whatever you use, is kept far enough above or to one side of the lens so that it does not intrude upon the finished picture.

● *Hold your camera steady*! When you take a picture, be sure the camera is braced against your face (with an eye-level viewfinder) or your body (with a waist-level viewfinder). Stand with your feet apart and your elbows resting against your body. This will eliminate camera shake, one of the greatest causes of blurred pictures.

● *When you actually "press the button" to make your picture, do so without jarring the camera.* Hold your breath for an instant,

then press the shutter release gently. If you press hard or suddenly, the entire camera may jerk at the instant of exposure and blur your picture.

● *Make plenty of "close-ups".* This is especially desirable when you are photographing people and animals. In professional motion pictures, it's the close-ups, the shots that show head and shoulders only, that add much to the interest of the picture. So for your next picture of a person, try standing so close to him that just the upper part of his body shows in the viewfinder—in distance, from 3½ to 6 feet. But remember in all close-ups to allow a little space in your viewfinder over the subject's head. This will compensate for the difference in position of the lens and viewfinder—a difference which would cause your subject's head to be partially cut off if you made no allowance. (Fixed-focus cameras with no adjustment for close-ups—like some of the 'Brownies'—can be adapted for this purpose by the addition of an inexpensive 'Kodak' Portrait Attachment. Eight feet is as close as you should be to your subject, unless you have either an adjustment for close-ups or a Portrait Attachment.)

● *Make your snapshots between two hours after sunrise and two hours before sunset.* If earlier or later, exposures must be at least double those indicated in this booklet.

Film RECOMMENDATIONS

The All-Purpose Film . .

KODAK 'VERICHROME'

IS excellent for your general outdoor snapshots. It has a wide exposure latitude—which means that, within reasonable limits, you can under-expose or over-expose your film and still get a good picture. This increases your ability to make clear, satisfying photographs.

For Pictures at Night and Difficult Daytime Shots . . .

KODAK 'SUPER-XX'

YIELDS fully exposed negatives under seemingly impossible light conditions. Kodak 'Super-XX' Film is a high-speed film and is ideal for snapshots by artificial light, night pictures of city streets, signs, etc., fast action shots and other pictures which require extreme speed. To avoid over-exposure it is better not to use 'Super-XX' in bright sunlight in a camera with only one or two diaphragm openings such as a 'Brownie'. 'Super-XX' Film is panchromatic (sensitive to all colours).

Fine Enlargements from Miniature Negatives . . .

KODAK 'PANATOMIC'-X

PRODUCES pictures of exceptional quality. It gives the finest grain of all 'Kodak' films, yet has ample speed for ordinary purposes. It yields big enlargements which have brilliance and no appreciable graininess, although they may be many times the original negative size. In addition, this fineness of grain will make your contact prints appear unusually sharp and clear. 'Panatomic'-X is panchromatic (sensitive to all colours).

For Fine Grain and Speed . . .

KODAK 'PLUS-X'

COMBINES extra speed with unusual fineness of grain, so that 'Plus-X' negatives made under adverse light conditions yield enlargements of high quality. Loaded with 'Plus-X' your camera will take brilliant pictures in poor light or at high shutter speeds. Available only in 36-exposure cassettes for 'Kodak' 35, 'Retina' or other miniature cameras taking 35 mm. films.

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Make the Most of Your Pictures

Careful Developing

Your care in exposing correctly, by following the advice in this booklet, may be wasted if your 'Kodak' film is improperly developed or carelessly handled. Kodak dealers everywhere offer careful and expert service—they usually use 'Kodak' Tested Chemicals, to get the best from every negative.

'Velox' Printing

The fine detail and soft tones of your negatives will not be reproduced correctly unless printed on paper suited to them. 'Velox' paper made by Kodak is used by the majority of Kodak dealers—it reproduces the best in every negative and its rich blue-black is unique. Look for the word 'Velox' on the back of your prints.

Tasteful Enlarging

Good prints look better enlarged; chosen portions of personal or pictorial value may be enlarged alone. The experience of Kodak dealers is at your service—and needless to say most of them use Kodak Bromide Paper. Its many varieties of surface and colour fill the most exacting requirements.

—ASK YOUR KODAK DEALER