Kiln sand or kiln grit
on Chinese porcelain

Kiln grit was used in many early kilns when firing ceramics.
The ceramics stood on the grit or sand in temperatures exceeding a thousand degrees (Celsius) without sticking to them.

Firing basics (logic):

- If an item has an unglazed bottom it can be placed on grit or a flat bottom and afterwards it can just be lifted off.
- If the bottom area is glazed, the item would be firmly stuck to the kiln or saggar bottom after firing.
- Thus, if there is no foot rim AND the bottom is glazed, then the item will show traces of any of several firing support types. There will be either stilt marks, support ring traces on an unglazed area, etc., or reverse firing was used.
- If the bottom/foot rim is fully glazed and shows no firing support traces then there is likely an unglazed top rim (only with bowls, dishes, etc.); upsdie down firing (Song dynasty) was used in certain periods.

Simply said, there is <u>always</u> a need for an unglazed area, where an item stands in the kiln.

Glaze and kiln grit:

- If the glaze is liquified in the heat of the kiln, and it comes into contact with the kiln bottom during the cooling process it will fuse the item to the bottom.
- If the item stood on kiln grit, the glaze will bind the grit to the item, but it still can be removed, of course with the grit adhering to it.
- The grit is embedded in any glaze that comes into contact with it and can not be removed.

Glaze and firing mishaps:

- If the clay structure of an item is too weak to support an item during the firing process, the item may change shape or sag, or even collapse. Then, if it comes in contact with a neighbouring item or the saggar, these may be fused together and become inseparable.
- The same happens if the glaze flows down to the bottom and comes into contact with a firing support or the ground. If it is only a little glaze, it might be possible to knock it off without damaging the whole item.

If two items are connected by the glaze then either of them or both are unusable. Even if they retain their shapes one of them must be destructed to salvage the other.

Kiln grit
Kiln grit or sand can be coarse or fine, as fine as the sand on some beaches or river banks. With Chinese ceramics kiln grit was prominent during the late Ming dynasty on export wares made in coastal area in southeast China, particularly the Zhangzhou (aka Swatow) wares. These clearly show the transition from unglazed bottoms fired on kiln grit to glazed bottoms and the disuse of grit. Many items show some glaze running unto the unglazed bottom, whereas any grit that came into contact with it was stuck to the bottom for good. Sometimes a fully glazed bottom had large

areas with grit adhering. The technique of glazing the foot rim down to the bottom without running unto the latter, or glazing the bottom without using grit was not properly developed yet in these kilns
This type of grit is frequently seen on underglaze blue and red-green porcelain made in a few local kilns during that period.
Other kiln wares like those from Jingdezhen, for example, are less prone to show grit.
Grit largely disappeared from all ceramics made at Jingdezhen during the Qing dynasty; some coarse wares not made for export still showed some until about the early/mid 18th century, but it was much less prominent by then.
Grains can also be found embedded in Qianlong export wares with a flat, unglazed bottom. In these cases a few tiny sand grains adhere the very edge of the bottom, and 'only' along the edge of the glaze. Otherwise there is none.
However, with Canton export wares a different, dark and smaller type of grit (rather sand?) is frequently found along the glaze edge throughout the Qing dynasty.

Thus we see generally two types of items with grit, one was almost extinct in the 18th century, on items from Jingdezhen, the other continued to show it until the late Qing dynasty. The reason may be that the firing environment in Canton (Guangzhou kiln) differed. The blanks were originally made in JDZ kilns and then transported to Canton for painting and afterwards another firing would be done at Guangzhou kiln. The latter is likely the source of the sand on these wares.

Kiln grit and fakes

Despite the above, we cannot judge an items authenticity or age based on the presence of grit. Grit was also used on fakes to confuse potential buyers.

Chinese fakes:
Grit is also offered for sale today in China. Guess for what... I have seen perfect Zhangzhou phoenix plates complete with grit. Stroking over the sand on the bottom some of it dropped to the ground. Once grit or sand is fused to a ceramic item it would be stuck forever. It is mostly impossible to remove it. This case meant here it (the sand) probably was glued on much later. Even given the remote possibility that some of the sand was loose after firing in the kiln, how could it possibly be still there some 400 years later?

Japanese imitations of Chinese items:
Some Japanese porcelain items copying Chinese motifs were made to deceive. They prominently show kiln grit along the inner and outer face of the glazed foot rim. Too much to be natural, actually. Often it is quite more than what the real antique Chinese wares show. Often this is combined with excessive chatter marks that are too regular, too long or too obvious, apparently added with the attention to give an impression of age.